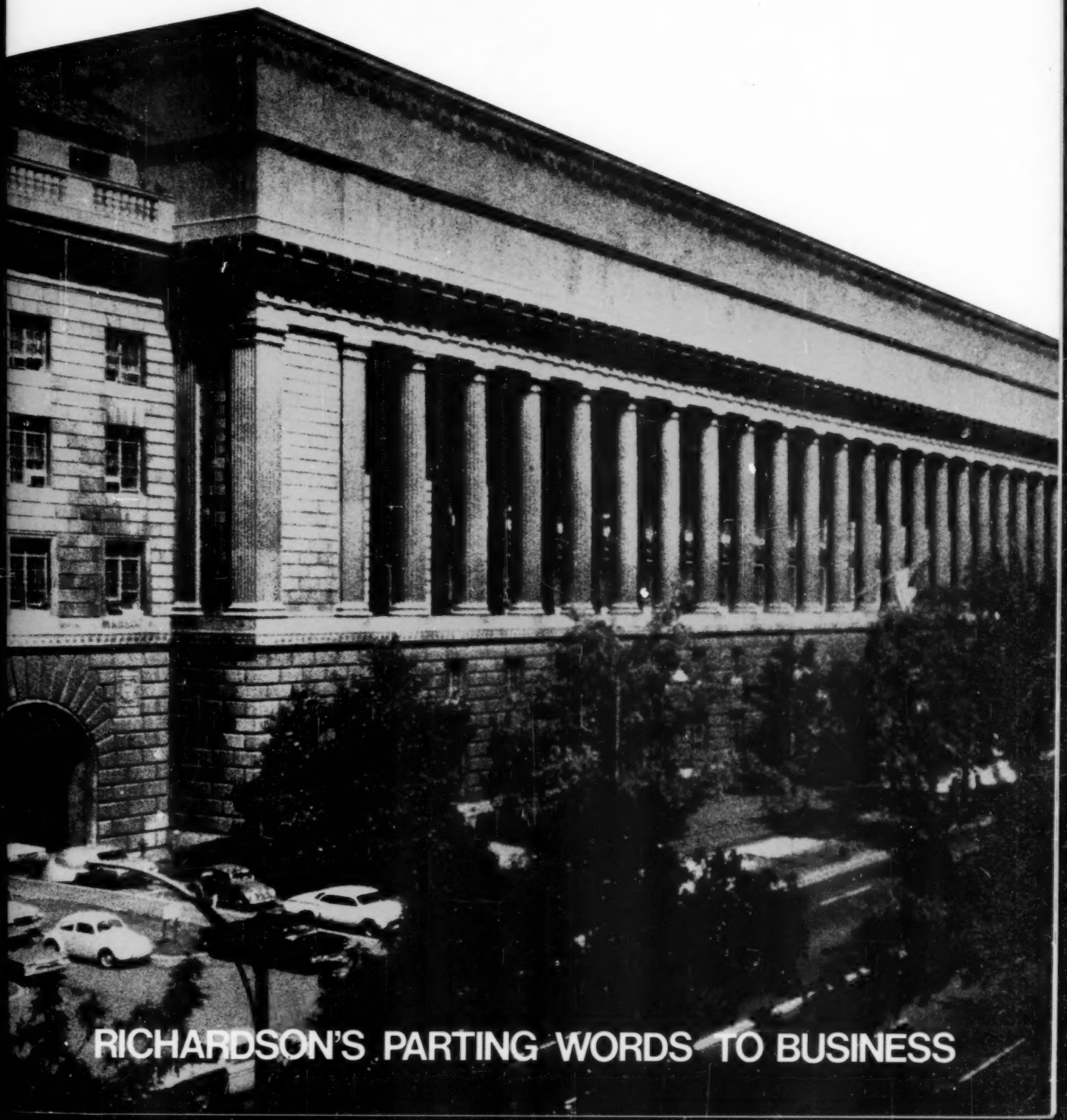
COMMERCE AMERICA

U.S. Department of Commerce / January 3, 1977



RICHARDSON'S PARTING WORDS TO BUSINESS

Newsmemo

A statement by Secretary Richardson:

I congratulate Governor Carter and Duke University Vice President Juanita Kreps on her nomination as Secretary of Commerce. I am particularly pleased with the selection of a woman to head the Commerce Department—but I wish also to emphasize that I am sure Mrs. Kreps will prove to be an outstanding choice on the merits. I first knew Mrs. Kreps when, as Secretary of Health, Education and Welfare, I became familiar with her thoughtful work on the problems of the aged. Her extensive background in economics—and, in particular, her analysis of labor market problems—will, I am sure, serve the Department and the public well.

"Hanging out" by teenagers at shopping centers leads to major problems a) often or b) seldom? Surprisingly, at least to many U.S. adults, shopping center managers chose the second response. Only 9 of 188 surveyed recently by Temple University felt they had a serious teen problem. Even those who found "hanging out" to be irritating said it was rarely destructive and criminal. Some teen policies recommended by the surveyed merchants: hire teenagers whenever possible, use security people who have rapport with young people, try to handle offenses with parents rather than with police.

Science and industry are going underseas at an astonishing rate. The new edition of "Jane's Ocean Technology" is almost double the size of its predecessor. This is an index to the international boom taking place in the extraordinary new and sophisticated vehicles and equipment involved in ocean exploration, exploitation and protection: drilling rigs, pipeline-laying equipment, submersible vehicles, anti-oil pollution systems. Jane's editor Robert Trillo says the industry is learning now that governmental protection is not a substitute for innovative excellence, productivity and hard competitive effort.

Americans paid over $29 billion in life insurance premiums in 1975, some of it wastefully. Preliminary figures gathered by the Federal Trade Commission staff show a wide variation in insurance protection costs. A purchaser could save thousands of dollars over a 20-year period, it is said, by taking out a low cost rather than a high cost policy. The FTC staff says the insurance consumer may be getting inadequate cost-comparison information. Policies with the same annual premiums often differ substantially in cost, depending primarily on their dividend scales and the growth of their cash values.

No manufacturer or service provider is immune to product liability claims. The insurance industry's Insurance Services Office has been studying liability claim records and offers preliminary findings based on 7,800 closed cases: payment is made in 70 percent of product liability claims; job injury claims tend to be more costly than the more frequent claims initiated by consumers; machinery makers are vulnerable over many years of machine use—21 percent of injury claims in this field arise from use of machinery 12 years old or older.

Liability claims involve time as well as money. The Insurance Services Office study, in its preliminary findings, has established that about 90 percent of all claims are reported within a year of occurrence. After three years, 98 percent of all claims have been reported. But four years after first report to insurer, claims that eventually involve more than 40 percent of total payments have not been closed. After 10 years almost all reported claims have been settled.

Growth in U.S. R&D activity this year is expected to return to the aggressive levels of the 1960s. The annual forecast of Battelle's Columbus Laboratories sets total 1977 expenditures at $42.9 billion, a 12.7 percent increase over the 1976 total. More than half of the anticipated increase is expected to be absorbed by continuing inflation. But the Battelle forecasters conclude that the rate of growth in current-dollar R&D, nevertheless, seems to have returned to the high rates of the pre-1968 situation.

Industrial R&D is swinging toward a "defensive" character, according to the Battelle observers. Up to recent years most industrial R&D activity was directed toward product or process improvements. But the nature of this work is changing because of growing governmental emphasis on environmental protection, health and safety of the work force, and consumer safeguards. The new trend is aimed at limiting or reducing corporate liability under particular laws.

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COVER: A view of the main U.S. Department of Commerce building in Washington from which Secretary of Commerce Elliot L. Richardson has directed the Department's operations since February 2, 1976. His advice to American business is contained in the article beginning on page 4.

U.S. DEPARTMENT OF COMMERCE

ELLIOT L. RICHARDSON
Secretary

EDWARD O. VETTER
Under Secretary

HORACE S. WEBB
Director of Communications

RICHARD BALENTINE
Editor

CLARENCE M. ZENS
Associate Editor, International Commerce

ARTHUR McDERMOTT
Associate Editor, Domestic Business

CHARLES MESSINA, JR.
Graphics Coordinator

Staff Writers:
Douglas F. Carroll, Felix Cotten, Margaret L. Hanson, Leslie Wilder.

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Mild Rise In Inventory/Sales Ratios Will Not Deter 1977 Growth

This column was prepared by John W. Kendrick, Commerce Chief Economist, in collaboration with staff economist H. Kemble Stokes.

John W. Kendrick

The rate of inventory investment has been an important component of the changes in economic growth during postwar business cycles. This was particularly true in the 1974-75 economic contraction and subsequent expansion. An unusually rapid increase in inventory/sales ratio precipitated the massive inventory liquidations that began in early 1975.

In recent months inventory/sales ratios have again begun to creep upward as growth in sales slowed in late summer and early fall.

This has raised questions about whether a significant inventory overhang has developed that will adversely affect economic growth in the fourth quarter of 1976 and 1977. This is all the more worrisome since increases in book value inventory/sales ratios dramatically understated the inventory buildup in 1974 and there is fear that they may be doing so again.

While it does appear that a modest inventory correction is presently under way in response to higher stock/sales ratios, this correction is not likely to be either long or particularly severe. As a result, the continued growth in sales that is widely anticipated during 1977 will require a more rapid accumulation of inventories that should boost general economic activity.

The 1974-75 recession was influenced by a very sharp inventory correction resulting from the preceding buildup of stocks relative to sales. Between the first quarter of 1973 and early 1975 inventory stock/sales ratios increased dramatically, with durable goods industries being the most severely affected (the table does not incorporate the recently announced revisions in manufacturing shipments and inventories).

It was then widely noted that, in a situation of accelerating rates of inflation, inventory/sales ratios based on book values would tend to understate the magnitude of the inventory buildup. This occurs because a boost in the inflation rate is immediately reflected in sales, but is only gradually reflected in book value inventories, since some production materials were purchased earlier at lower prices. When inventories and sales are expressed in constant dollars the ratios indicate a much more pronounced increase. The differences between increases in the ratios based on book values and on constant dollars were much more significant in manufacturing and wholesale than at retail. In durable goods at retail, the increases in inventory/sales ratios were greater for book value estimates, contrary to the commonly acknowledged downward bias.

The reason for this aberration would appear to lie in the nature of the inflationary process at that time. A major inflationary force was the accelerating prices being paid for primary materials, which bubbled through the various stages of processing and affected retail inventories prior to final sales. In addition, weakness in consumer demand reduced the amount of inflation which could be passed forward. These two effects virtually eliminated the discrepancy between changes in stock/sales ratios in book values and constant-dollar values at retail.

Since the peaks of late 1974 and early 1975 there have been significant declines in the ratios, due initially to inventory liquidations and later to the growth in sales during the economic recovery.

It is significant that these percentage declines in book value and constant-dollar ratios should correspond so closely with one another during this period. To a large extent this reflects the deceleration of inflation during the period of economic recovery.

During 1976 there were only modest changes in rates of inflation, and as a result both book value and constant dollar inventory / sales ratios show similar changes.

The magnitudes of these changes are quite small, especially in relation to the buildup preceding the inventory liquidation of early 1975. And with no sharp accelerations in inflation the use of book values does not understate inventory accumulation.

The inventory buildup that has occurred in manufacturing and retail is largely confined to the durable goods industries. In manufacturing, inventory/sales ratio increases were on the order of 7 to 9 percent in primary and fabricated metals, and were essentially un-

Inventory/Sales Ratios

(% change first quarter 1973 to peak)

	Book Value	*Constant Dollar*
Manufacturing	21	31
Durable	32	38
Nondurable	10	21
Wholesale	5	14
Durable	23	30
Nondurable	–3	8
Retail	14	16
Durable	36	33
Nondurable	5	8

Note: Peaks are series peaks and occurred between the fourth quarter of 1974 and the second quarter of 1975.

Inventory/Sales Ratios

(% change, peak to early 1976 trough)

	Book Value	*Constant Dollar*
Manufacturing	–18	–15
Durable	–20	–16
Nondurable	–14	–12
Wholesale	–5	–6
Durable	–10	–8
Nondurable	–9	–11
Retail	–10	–14
Durable	–20	–25
Nondurable	–6	–7

Note: Peaks and troughs refer to the specific series. Troughs occurred in either the first or second quarter of 1976.

Inventory/Sales Ratios

(% change, early 1976 to October)

	Book Value	*Constant Dollar*
Manufacturing	5	4
Durable	7	7
Nondurable	4	3
Wholesale	1	0
Durable	1	1
Nondurable	1	–1
Retail	2	1
Durable	6	6
Nondurable	1	0

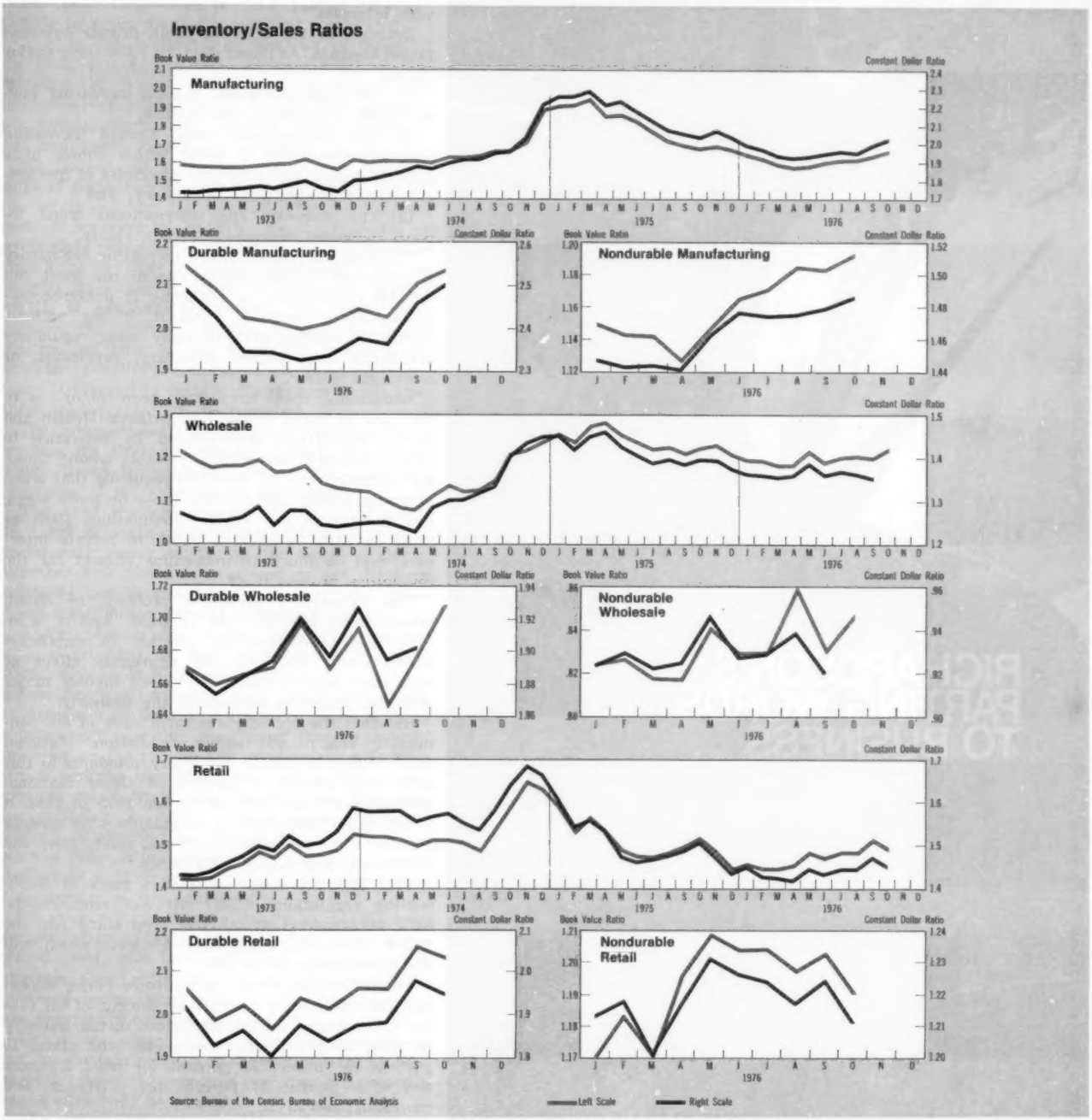
Note: To September 1976 for wholesale.

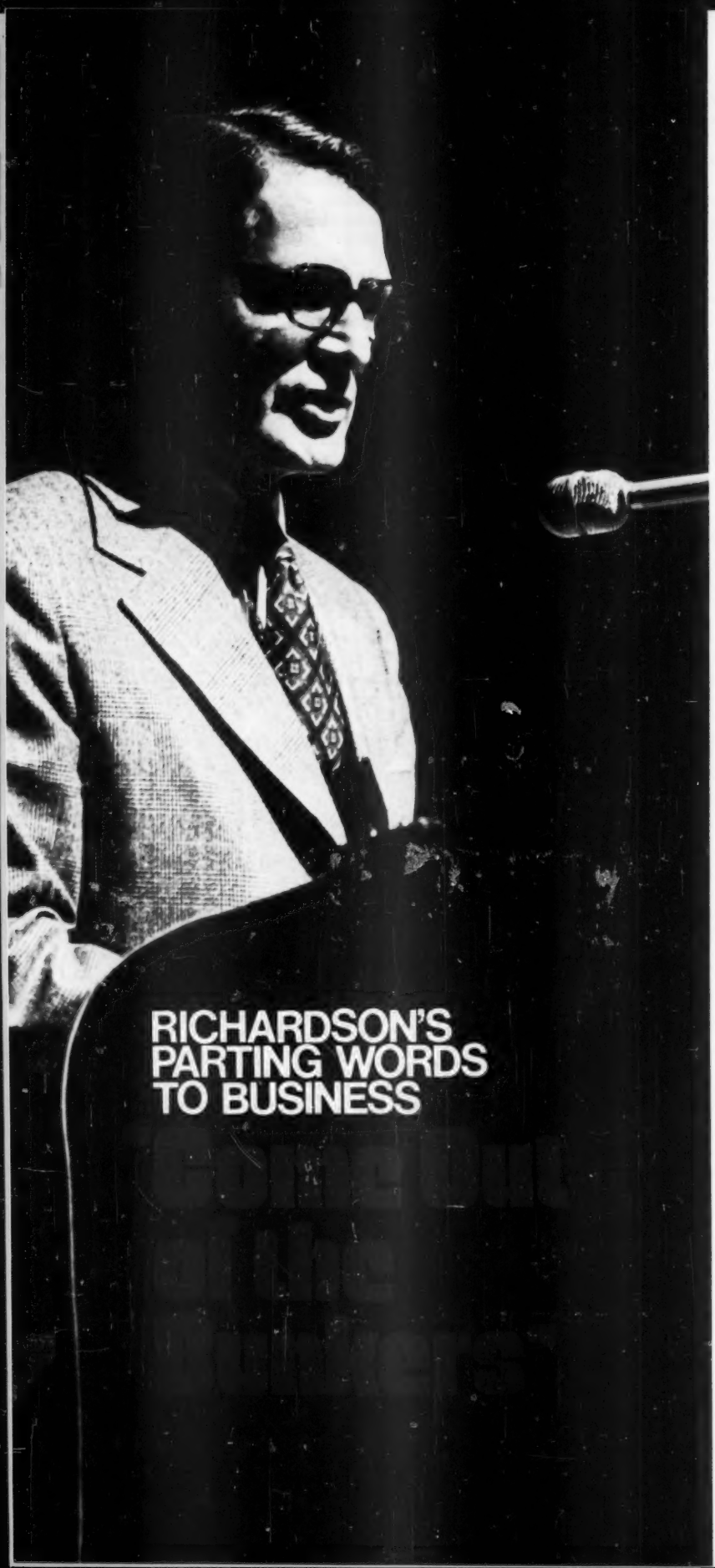
changed in electrical and non-electrical machinery, but rose very sharply, about 30 percent, in motor vehicles and parts. These increases reflect both book value and constant dollar estimates, since there is no significant difference between them for this period.

In the durable goods sector at retail, inventory/sales ratios derived from either book value or constant dollar estimates indicate increases of 4 to 5 percent for furniture and appliances and about 8 percent for automobiles. These estimates already include the reductions in retail inventories that took place in October. Some restructuring of inventory balances is presently under way. This process was aided at retail by the strength of November sales. Retail sales of furniture and appliances were particularly strong, with a real gain of about 1 percent. In addition, November's unit domestic auto sales improved over October, with the last ten days' sales up significantly. The sales improvement continued into December.

A more moderate rate of inventory accumulation was expected during the fourth quarter, reflecting the recent buildup of inventory/sales ratios. It is significant that these recent increases in inventory/sales ratios bear no resemblance to the increases prior to the 1974-75 recession, and that book value estimates of these ratios, under present rates of inflation, are not misrepresenting the true inventory situation as before.

Recent gains in retail sales and unit sales of domestic automobiles have promoted a modest rebalancing of inventories, which helps provide a firm basis for economic growth and continued inventory accumulation during 1977.





RICHARDSON'S PARTING WORDS TO BUSINESS

America's "private sector," its industrial leadership in particular and many would-be defenders of our free-enterprise system, seem increasingly possessed by a siege mentality, Commerce Secretary Elliot L. Richardson told a recent National Association of Manufacturers meeting. "They seem to feel surrounded by mounting public forces relentlessly bound to destroy their interests," he said.

Although it is an exaggerated response, in Richardson's view, he noted that the siege mentality is not without some serious foundation in reality. "Even if not by conscious strategic design, governmental forces on several fronts have been driven to—or have driven themselves to—what often is, an increasingly adversarial relationship with private interests."

Evidence of the growing public-private confrontation abounds. As illustration, he cited three major trends:

(1) The domestic trend toward increasing governmental regulatory intervention;

(2) The international trend toward increasing interdependence—in a world which shows little general respect for American principles of market-oriented, free-enterprise democracy; and

(3) The domestic and international trend toward increased "corporate accountability."

The domestic trend toward increasing regulatory intervention is undoubtedly one of the most significant contributors to acrimony in public-sector-private-sector relations. And it is not without reason, Richardson said. In many cases, regulatory standards have seemed arbitrary, capricious, or downright absurd.

Admittedly, these have often been minor—as in the case of many of the Occupational Health and Safety regulations incorporated by reference to prior voluntary conventions. Notable among these, for example, was the standard requiring that when climbing a step ladder with three or more steps, one must face the ladder. Regulations such as these do little to advance public or private interests—and do much to undermine respect for the regulatory process itself.

This becomes a particular problem, he noted, where major interests are at stake. And it is increasingly clear that—in addition to significant non-economic interests—the aggregate effect of regulatory intervention does indeed involve major economic interests throughout the economy.

He cited the recently emergent area of environmental, health and safety regulation. National expenditures to satisfy regulatory standards in this area now exceed 2 percent of Gross National Product per year. For the decade 1975 to 1984, it is estimated that costs of compliance with already existing environmental, health and safety laws and regulations will exceed $500 billion.

This estimate does not include costs of forthcoming regulations—Clean Air Act amendments, toxic substance controls, coke oven standards, the OSHA Standards Completion Project—which will add more billions to the bill.

And, of course, these costs involve major allocations of investment capital—31 percent of all capital expenditures for the nonferrous metals industry in 1975; 20 percent for stone, clay and glass; 19 percent for paper; 15 percent for blast furnaces and steel works; 14 percent for petroleum and chemicals; and so on.

Whether this is an optimal use of capital is de-

batable. The steel industry calculates, for example, that a billion dollars invested in environmental controls would create 610 new jobs. While a billion dollars in new productive capacity would create 7,800 jobs—more than twelve times as many. Chemical industry estimates suggest a similar ratio of about 2.5 to 1.

Temperatures tend to run high in discussions of such numbers as these. The problem is compounded when one attempts to relate overall costs to benefits. Intelligent debate often tends to degenerate into the classic confrontation of white hats and black hats. Those concerned about costs—the black hats—are presumed to represent "private interests." Those concerned about benefits—the white hats—cloak themselves in "the public interest." Debate becomes simplistic, arrogant, overstated.

It is in this context that analysis of many of the basic questions of fact—essential to the determination of sound policy and economics—has proved seriously inadequate. Indeed, the appropriate data gathering and analysis often has simply not been done, Richardson conceded.

We do not yet really understand the relationships of regulatory benefits to employment. We far too rarely consider the relationship of incremental costs to incremental benefits. We treat decibel or particulate reduction, say, with an often unfounded confidence in their presumed relationship to the benefits they are supposed to represent, human health or aesthetic satisfaction. We hardly ever consider the aggregate impact of these regulatory policies. As long as the black hat versus white hat—the simplistic "public versus private"—mentality is allowed to remain, Richardson doubts that these inadequacies will be remedied.

The international trend toward interdependence involves the United States increasingly in a world which shows little general respect for American principles of market-oriented democracy.

The most obvious case in point is oil. Leaders of a set of state-managed economies comprise a cartel with power to disrupt the world economy. Whether this power is exercised or not, its very existence complicates private planning and introduces a significant element of uncertainty.

A less obvious, but equally important, general case is provided by the "north-south," or "rich-poor," dialog—as it is politely termed.

Less developed countries seek preferential access to American markets on a long-term basis, without commitment to either the "most favored nation" principle or the principle of reciprocity—principles which underlie our efforts to build a freer, more efficient world trading system. Further, they seek to establish a "New International Economic Order"—attempting to effect a major shift of resources from richer nations to poor, through such devices as a "Common Fund" for the non-market management of key commodities.

The public-versus-private debate in international forums often is even more heated, more overstated, and even less informed by responsible analysis than it is domestically. The simplistic, confused notion that public and private interests are necessarily opposed is prevalent.

Unless this simplistic confusion is straightened out, Richardson noted, it is doubtful whether fundamental human and economic problems can responsibly or effectively be treated.

The trend toward increasing "corporate accountability"—both domestically and internationally—is, of course, not only a symptom of the public-private confrontation mentality, it is a direct outgrowth of it. Here at home it is currently evidenced by legislation interest in such proposals as federal corporate chartering and mandatory representation by "independent outsiders" on corporate boards of directors. Internationally, it is reflected in the United Nations' effort to develop an enforceable "Code of Conduct" to regulate the behavior of transnational corporations (and, parenthetically, to regulate the behavior of home and host countries with respect to them).

The accountability trend has undoubtedly been accelerated by dramatic revelations of improper corporate political activity—and, most recently, by a continuing exposure of a now rather extensive pattern of questionable corporate payments abroad.

It has, perhaps, been strengthened further by public perception of the relatively passive concern for the problem shown by the business community. There has, of course, been some rhetorical abhorrence of bribery, and, largely in response to pressure from the SEC, there has been a flurry of interest in voluntary codes of conduct. But there has been very little effective business leadership either toward remedial domestic legislation or, as is generally preferred, toward an international treaty which would set common enforceable rules for all competitors.

The accountability trend . . . has been strengthened further by public perception of the relatively passive concern for the problem shown by the business community.

This failure of leadership has been a substantive and tactical mistake, Richardson believes. He predicts that it may result in the enactment, on the one hand, of domestic legislation unilaterally making the payment of bribes abroad a criminal offense while, on the other hand, there is failure to negotiate an international agreement capable of assuring that foreign competitors are also prevented from bribing.

Nor does Richardson believe that this mistake is unusual. "Indeed, it has been my observation that business leadership—supposed by many to be so powerful—has, as a general matter, been remarkably ineffective in guiding constructively the evolution of public-private relations."

On the other hand, he hastens to add that he does not mean to suggest that public leadership has, by contrast, been exemplary. Too often, it has been uninformed, unwise, unfair, clumsy and arrogant.

But he limited his suggestion to what, within the direct control of business leaders, may be done about the problem.

He cited what he called a regrettable decline in the relative influence within our society of business statesmen—business leaders of vision, courage, visibility and effectiveness in the constructive shaping not only of private, but of public events.

This decline is not simply a result of the rise of anti-business sentiment—although this undoubtedly has been a contributor. It is also the consequence of influences shaping the evolution within corporate America itself. Vision has been shortened by a tendency to focus on the "payout period" determined by return-on-investment requirements—five years for a target return of 20 percent—and by the relatively rapid turnover in top executive leadership. Apparent "courage" and visibility may have declined somewhat as a result of two other influ-

Business leadership should improve its capacity to plan realistically in relation to evolving public policy.

ences: the rise of less entrepreneurial and more technocratic management as the appropriate leadership in now rather bureaucratized major corporations; and the rise in management accountability to a broadly diverse set of public stockholders.

These influences, taken together, may account for the relative passivity which characterizes much corporate leadership in relation to public policy-making. And this, in turn, may account in some measure for the lateness with which business leadership seems to respond—in turn accounting for its frequent defensiveness, and ultimately for the siege mentality.

It ought not—and it need not—be this way.

To build a more responsible and productive public-private relationship—both at home and abroad—Richardson suggests the following four points as a guide to modern business leadership:

• Business leadership should keep right on striving to innovate, to profit, to maximize return on investment—and proudly so. If business were to fail in this its primary mission, our system itself would fail. And with it would go our capacity to influence favorably the development of the world economic and political system.

The American economic system has demonstrated its superiority through performance. It can and should continue to do so.

Indeed, if public policy allows, Richardson feels its relative superiority may become increasingly evident. For the efficient management and development of increasingly complex societies requires not only incentives such as are featured in the American system; it also requires, to a very significant degree, decentralized market decision-making—as a means to avoid the otherwise stifling overload of governmental decisionmaking.

In time, performance may earn respect. It is in any case a valuable preventive: its absence would ensure even greater governmental encroachment.

• Second: Business leadership should seek to develop—on a profitable basis, not as a matter of charity—opportunities to extend its performance capability to the treatment of special public policy problems.

A potentially excellent example is provided by the recently-launched employment campaign by the National Alliance for Businessmen. It is focused on the training and hiring of the disadvantaged and youth. It is, in effect, a private approach to the solution of one of America's most serious social and economic problems—persistent structural unemployment.

Another example is one in which the Commerce Department recently engaged—as a strictly catalytic agent. It is a national campaign focused on the problem of "career education"—better relating education to employment and improving the transition from school to work. It draws on private-based models developed by the private sector—and seeks to encourage their widespread adoption.

An even more challenging problem which could bear renewed private attention is the general problem of restoring America's cities. The time for this may now be right, in Richardson's view. There is an increasing recognition that public resources are limited and that, for this and other reasons, business investment in cities is essential to their revitalization.

In focusing on the urban problem, two general strategies need to be developed—in cooperation with government: one would involve the "privatization" of selected municipal and social services—that is, the provision of publicly-subsidized services on a private, for-profit basis as a spur to greater efficiency and responsiveness; and a second would seek to reattract industry—with its associated earning power—to urban areas.

If the private sector succeeds with the first strategy, but fails satisfactorily to address the second, it will, one way or another, pay much of the bill through taxes.

• Business leadership should improve its capacity to plan realistically in relation to evolving public policy. The "head-in-sand" reaction referred to earlier is, no doubt, a reflection in part of a wish that government would somehow go away. It is also a reflection of a mistaken assessment that it will. In general, it will not. Nor will the growing public-private interaction be fundamentally reversed. It is an inescapable consequence of the growth of the domestic and world economies.

American private enterprise has led in planning the evolution of the private marketplace. Given the dramatically increased importance of public decisionmaking in relation to private enterprise, and given the self-defeating character of belated defensive reactions, it is simply a matter of practical logic (however distasteful) that American private enterprise must develop an analogous capability for public policy analysis and associated planning.

Assuming then, that American enterprise may be led to enter the public policy debate earlier than has been typically the case, Richardson's fourth and final point will apply.

• Business Leaders—and, he emphasizes all those who would seek to serve the public interest—must not allow themselves to fall victim to the trap inherent in the "public-versus-private" semantic confusion. Public and private interests are rarely so neatly opposed. Indeed, they are generally intertwined. And, in Richardson's judgment, it has been a major substantive and tactical mistake of the business community to have accepted identification with concern for "private" interests, as if they were fundamentally distinguished from "public" interests.

Isolated in the corporate fortress, too many businessmen have cast their argument in terms of their traditional interests—profit and capital for investment. But these are the terms of the black hats. They translate, of course, into jobs, prices, consumer satisfaction—even, given responsible political decisionmaking, into satisfaction of collective wants and ultimately the improved "quality of life." But these are all terms which have been expropriated by those now confidently postured in white hats.

"I doubt the expropriation would have taken place were it not for the defensiveness of business leadership," Richardson said.

"But the time has clearly come to abandon the notion of a simple and obvious opposition of 'public' and 'private' interests. The time has come for business to argue its case in relation to the important 'public' interests it serves.

"The time has come to abandon the siege mentality. The public interest requires it. And, as it happens, it may be the only way to end the siege."

Lighting a Candle:

CORPORATIONS BACK EMPLOYEES' SOCIAL SERVICE WORK

Many American business corporations are still trying to fight an image that should have died with the robber barons. They feel that their worthy contributions are often overlooked, while their shortcomings receive inordinate publicity. In their efforts to help the communities where their plants and offices are located, they have instituted programs ranging from giving executives time off to manage charity drives to initiating leave programs such as that at Xerox Corporation which allows certain employees up to a year off, with pay, to work on a social service project of their own choosing.

In many cases, these service programs benefit the employee as much as the recipient organization. Yet, they are often unknown outside the company.

Archie McCardell, president of Xerox Corporation, has little trouble explaining why his company is paying one of its employees to work in a drug rehabilitation center in Rochester, N.Y., another one to serve as housemother at a school for emotionally disturbed boys in Illinois, and another to help refurbish a community center in downtown Los Angeles. These workers are all participants in Xerox's Social Service Leave Program, which originated in 1972 and enables personnel with several years employment at Xerox to work for up to a year at a social service project of their choice.

According to McCardell, the program is "good for Xerox people who go on leave, good for the agencies they serve, and good for society."

Xerox is not the only large corporation with a social conscience. A number of others have instituted similar programs, but Xerox and Wells Fargo Bank appear to be the only ones that let the employee select the project him or herself.

In general, Xerox personnel choose to work in places where they have already been doing volunteer work. Frequently, they have seen the need to devote more time to the programs, but couldn't manage it in their evenings and weekends.

C. Peter McColough, chairman of Xerox, tells why the company initiated the Social Service Leave Program: "Xerox has always had a basic philosophy that we should be involved as a corporation in the problems of our society. We've encouraged our people to be involved. Social service leave is a logical extension of that commitment. We are determined to put something back into society.

"Many of our people share our commitment. But on a part-time basis, there is only so much they can do. A lot of them would like to really sink their teeth into a problem full-time. We'll give them a chance to do this during the prime of their working careers, when they're best able to do it. They won't have to wait until they retire.

". . . As a result of programs like social service leave, we think that the bright young people will be more apt to join us than some other big company."

In applying for social service leave, Xerox employees must indicate the details of the program they want to work on, what their specific job will

More and more corporations are giving employees time off to work on social service projects. Included are such volunteer programs as teaching adult classes, helping the Red Cross (here aiding flood victims), rebuilding a community center or pursuing a personal interest, such as studying swamp ecology.

be, and why they are specially qualified for the task. ("Gnawing desire" is considered an acceptable reason, along with specific experience, training skills, prior involvement or personal history.)

Applicants are evaluated by a committee composed of Xerox employees representing a wide spectrum of job levels.

Initially, the leaves were all for one year. But later, it was decided to grant leaves of varying lengths, depending on the project. This opened up opportunity to employees who had found smaller projects, or were hesitant to detour from career plans for as long as a year.

Dr. Joseph Cahalan, administrator of the program, summarizes what he sees as the benefits to the leave-taker and to the company: "They acquire more skills, become more articulate and grow in self-confidence. They also become more humble, less stereotyped in their thinking and more open to differing opinions."

To date, 126 employees have participated in the program.

Wells Fargo and Company has initiated a program offering employees two kinds of leave with pay: social service and personal growth.

Wells Fargo has regularly contributed financial support to organizations attempting to solve important social problems. Some of its employees also expressed interest in actively participating in this process. Recognizing that people are often a greater resource than money for these organizations, the company has developed its social service leave program.

Initially, two employees with at least three years' full-time employment at Wells Fargo will be granted leaves with pay up to six months. They will continue to receive full pay and benefits and are guaranteed their jobs or ones of equivalent pay and responsibility upon their return. Criteria used to select the individuals include the impact of the work to be performed toward improving a stated social problem; the feasibility of the project; and the perceived depth of commitment of the individual. When the first two employees have completed their projects, two others will be selected.

Their worthy contributions are often overlooked, while their shortcomings receive inordinate publicity.

Personal growth leave gives the employee up to 90 days to pursue a personal interest that vacations, weekends and evenings do not provide time enough for. Only employees who have worked at the company full-time for 15 years are eligible. Over the next year four employees will be selected for this program, receiving full pay and benefits during the period they are away from their jobs.

Among the factors influencing the selection are the ability of the person to accomplish an intended goal within the 90-day leave; an activity which broadens the individual rather than merely increasing an existing skill; hope that the endeavor will enrich the person's attitude beyond the length of time of the leave; and indication of a serious interest on the part of the applicant, rather than one that is merely diversionary or escapist.

International Harvester grants leave to employees for Peace Corps and other public service and, in fact, the provision has been written into its labor contracts. Employees receive credit toward pensions for the time they serve in the Peace Corps.

A policy statement by the company reads: "We have taken the position that public interest cannot be separated from the regular day-to-day operations of business . . . Therefore, it is our belief that the social responsibility of business is essentially moral responsibility. As such, it must be a part of every plan, every policy, every economic decision and every act of enterprise."

To enable its employees to hold elective office or other governmental positions, IH, like many other corporations, allows time off without pay. Employees may also request leave to serve as judges or as nonpartisan poll watchers.

An employee who is a candidate for any government office may be granted a leave of absence, without pay, for 30 days in the period prior to the election date for the office for which he or she is campaigning. Employees who are elected delegates to the major political party national conventions will be granted time off with pay up to five days of officially scheduled business at the convention.

As to nonmilitary or non-civil service governmental activity, part-time leave may be granted for up to 60 days and a part-time work schedule arranged at appropriate compensation, while full-time leave without pay may be given for up to two years. In the case of full-time absence, an employee may, upon completion of service, return to work

in his/her prior position or one of similar status and pay, without loss of seniority.

International Business Machines Corporation has a number of community service programs, including a college faculty loan program and a social service leave.

The college faculty loan program, begun in 1971, allows IBM professional employees to spend an academic year teaching at colleges and universities with substantial minority or disadvantaged enrollments at no cost to the institution. For the academic year 1976-77, 26 schools are benefitting from the program. Since the program's initiation, more than 150 employees have taught a variety of subjects. The most popular ones have been business, computer science and engineering, but accounting, math, electronics, physics, English, psychology, chemistry, library science and administration have also been offered.

In addition to teaching, typical assignments for the IBMers include curriculum development, student counseling, serving as advisors to student clubs and associations, and providing administrative support for the school.

IBM has encouraged its employees to take leaves of absence without pay for various forms of public service. Through 1976, more than 500 employees have been granted either partial or full leaves to participate in social involvement projects relating to community poverty organizations, helping state and local governments, counseling disadvantaged individuals, and working for colleges and universities.

For the past four years, Westinghouse Electric Corporation has followed a program for its top executives whereby members of the Management Policy Committee step down at age 60 and become officer-directors who concern themselves with long-range company plans until they reach the usual retirement age of 65. About two-thirds of their time is spent on these activities, and the rest is devoted to projects of their own choosing.

The program was developed originally in an effort to bring younger men into policy making positions. In announcing the plan, then Chairman Donald C. Burnham cited the need for younger men "flexible, venturesome and in tune with the changing nature of our society . . . best prepared to meet the new demands and challenges facing business and industry . . . inclined to make the decisions and take actions necessary to keep Westinghouse moving forward."

The officer-directors devote their efforts to socially-important issues which are also of importance to the company's future. Among the subjects studied:

- Technologies of the future—what is occurring scientifically in the United States and world-wide.
- Developing nations' strategy—the customs, cultures and economies of developing countries;
- World energy sources—the world's energy needs and the resources to fill them;
- Government relations—establishing more effective relations with federal, state and local governments;
- Education—work with educational institutions and national technical societies.

Connecticut General Life Insurance Company, of Hartford, Conn., instituted an unusual election year competition to promote volunteerism by its employees. As part of the company's participation in the local United Way campaign, employees competed for the assignment of spending a month at full company pay and benefits working for the charity of their choice. The activity was kicked off with a mock convention, candidates were allowed to campaign at work, and ballots were incorporated in United Way pledge slips.

The National Alliance of Businessmen was formed eight years ago to deal with problems of unemployment in the nation's poor urban areas and lack of training for available jobs. As veterans of the Vietnam War began returning, the NAB branched out to include them in its job training programs. Later, the NAB added former convicts to its roster of job seekers.

Participating firms loan executives at full pay to the NAB for periods of six months to two years. More than 90 percent of NAB's staff of 5,000, which visits companies seeking pledges of job opportunities, is on loan from corporations.

These are just a few examples of the efforts of corporations to not only make contributions to social service programs in their communities, but also to give their employees the opportunity for enriching experiences.

These service programs benefit the employee as much as the recipient organization.

Energy Digest

GOING IT ALONE . . . An energy-related stumbling block to increased housing production may be removed through a new concept for delivering utilities services to communities, according to Commerce's National Bureau of Standards. The method involves having housing developments operate their own expandable utilities plant, called a Modular Integrated Utility System, to supply electricity, space heating and cooling, solid waste and waste-water treatment, and drinking water. Use of a MIUS makes a community or housing development independent of city sewage systems and utilities services, an important factor in areas where building construction is impeded—or halted—because existing systems are already overburdened.

DOUBLING PERFORMANCE . . . Concerned about reducing the nation's growing dependency upon oil imports, the General Electric Co.—with Triad Services, Inc., ESB Inc., and Chrysler Corp., as consultants—is designing an experimental electric car with the possibility of twice the performance of commercially available electric vehicles. The project is funded under a $265,000 contract from the Energy Research and Development Administration, and calls for an experimental short-trip vehicle with a minimum top speed of 55 miles per hour and an acceleration of 0 to 30 m.p.h. in ten seconds. In addition, the ERDA contract requires a stop-and-go range of at least 75 miles without a battery recharge, and a maximum recharge time of six hours. "This project joins forces of leading companies in all related and critical fields—electric motors and controls, battery technology, and automobile design and manufacturing—to design an electric passenger car," says GE's Dr. James M. Lafferty. ERDA seeks an electric car that will cost no more than $5,000 in 1975 dollars when mass-produced.

LOCAL OFFICIALS, HERE'S HOW . . . The Federal Energy Administration has published an important new handbook for local governments faced with burgeoning energy costs. A Guide to Reducing . . . Energy Use Budget Costs, provides city and county governments with the straightforward, practical information needed to reduce energy costs and save taxpayers money. The guide suggests energy-saving initiatives ranging from improved purchasing policies to more efficient vehicle fleets. It points out, for example, that Dade County, Florida, is using less gasoline today than it did in 1972, even though its fleet size has steadily increased. The county reduced gas consumption by 35 percent of projected requirements by shifting to smaller and diesel vehicles and by implementing a gasoline rationing plan. Sponsored by FEA, the guide was prepared by the National Association of Counties, the National League of Cities and the U.S. Conference of Mayors. Limited free copies of A Guide to Reducing . . . Energy Use Budget Costs are available to local government officials from FEA Regional Offices.

SKILLS INVENTORY . . . Ensuring that skilled craftsmen are available at the time they are needed is a prime concern to planners of major energy construction projects. Unforeseen shortages of manpower, particularly in the skilled trades, may often result in costly delays in one region while the same type of workers are out of work in adjoining areas. Now, a new computerized system being developed by four federal agencies may help planners forecast regional and local construction activity more accurately, as well as the accompanying needs for skilled construction labor. The system, which should begin operating in late 1977, will be produced by the Department of Labor, the Federal Energy Administration, TVA and ERDA. The computer-based system will specialize in detailed information on energy-related construction by both private and public organizations.

COMPACT WASTES . . . Fluor Engineers and Constructors, Inc., is working on an ERDA contract valued at $9 million to design and engineer a high-capacity facility to solidify liquid nuclear wastes. The new facility, to be located in the chemical processing plant area of the Idaho National Engineering Laboratory west of Idaho Falls, has a total estimated value of $65 million and is scheduled for completion in 1980. The contract calls for a waste calcining (solidification) facility to process 3,000 gallons per day of highly radioactive wastes into solids for safe storage in one-tenth the volume required by liquids.

CANCELLED OUT? . . . Cooler-than-normal weather nationwide during the May-September air-conditioning season produced a 7.2 percent drop below the average summer accumulation of cooling-degree days, and a 10.4 percent decrease from the 1975 figure. However, with the cooling trend carrying over into the winter months in many parts of the nation, the summer's energy savings could well be wiped out by increased heating needs.

Patent Milestone Aids Nation's Road Builders

NO. 4,000,000 COVERS PROCESS FOR RECYCLING ASPHALT PAVING MATERIAL; 4,000TH PLANT PATENT ALSO ISSUED

A process for recycling asphalt paving material which cuts costs, conserves energy and minimizes the effect of burning asphalt on the environment has been issued Patent No. 4,000,000.

Ceremonies December 28 at Commerce's Patent and Trademark Office at Crystal Plaza, Virginia, commemorated the event as Commissioner of Patents and Trademarks C. Marshall Dann signed the grant. At the same time, Plant Patent No. 4,000 was signed by Dann for a type of poinsettia.

The four millionth patent was issued to Robert L. Mendenhall, a Las Vegas paving contractor, on a process for recycling asphalt-aggregate composition. It is one of some 75,000 utility patents issued annually by the Patent and Trademark Office.

There are approximately 340 million tons of virgin asphaltic concrete mix used in paving annually. The Federal Highway Administration estimates that 20 to 50 million tons of asphaltic concrete paving could be recycled annually on federally-aided work for repairs, reconstruction and repaving. This is particularly important since the interstate highway system and some other major roads are beginning to require repair.

This patent process breaks up old asphaltic concrete pavement, screening the material, then processing it into a form suitable for re-laying. The process places the used, hard and brittle asphalt-aggregate into a heating and mixing chamber and adds a petroleum hydrocarbon having at least a 55 percent aromatic content. When the mixture is heated in Mendenhall's apparatus, which has internal heating pipes, the process yields a significant decrease in smoke released to the atmosphere. The recycled asphalt-aggregate composition can be used for many of the same applications as the original material. Mendenhall currently holds three additional patents and has pending ten applications for patents covering other aspects of the overall process and apparatus.

Mendenhall indicates that the savings in remanufacturing asphaltic concrete over the production of virgin material from crude oil amounts to about $5 a ton. This he calculates as an annual savings of from $100 to $250 million for the industry.

The energy crisis has had serious impact on the highway and construction industries, since the source of virgin asphalt is crude oil. In fact, according to the United States Bureau of Mines, approximately 3.2 percent of the crude oil input nationally in 1975 went into the production of asphalt. As a result, quality asphaltic concrete aggregates are in short supply and becoming scarce in many sections of the country. Costs also have been increasing dramatically over the past few years because of the higher cost of crude oil. Recycling thus reduces this drain on petroleum resources as well as lowering construction costs.

By proper utilization of the estimated six billion tons of asphaltic concrete now on the ground, all of today's highways may be maintained without resorting to the production of virgin asphaltic concrete, largely eliminating this country's need for new asphalt for this purpose.

Also, recent findings indicate that the recycled material laid down over the last few years may have significantly greater longevity than virgin material. This would even further reduce the pavement maintenance and repair costs.

Mendenhall started experimental work on recycling asphaltic concrete in 1970 and first employed his new technology in September 1974 when he recycled a one-mile test section of Interstate Highway 15 between Las Vegas and California. He recently completed a 20-mile section of that highway utilizing his technology. His process has been recognized as being so economically advantageous that a joint venture of the largest asphaltic concrete producers in the Netherlands has licensed his technology for all of Europe. Successful licensing negotiations for use of the technology in Japan were just concluded.

Plants are late bloomers

Plant Patent No. 4,000 was issued to James C. Mikkelsen of Ashtabula, Ohio, for a new poinsettia plant. Issuance of plant patents is relatively new in the

Accelerating Inventiveness

With the exception of one time period, the growth in the number of U.S. patents issued has reflected the country's rising population and economic activity.

The first patent granted by the United States was issued to Samuel Hopkins on July 31, 1790, for improvement in the production of potash, and was signed by President Washington, Attorney General Randolph and Secretary of State Jefferson, who personally processed applications for patents.

Some 121 years later, in 1911, Patent No. 1,000,000 was issued to Francis H. Holten of Akron, Ohio, for a vehicle tire intended "to take the place of the pneumatic tire."

Just 24 years after that, in 1935, Joseph Ledwinka of Philadelphia was awarded Patent No. 2,000,000 for a "vehicle wheel construction."

The pace slowed a bit after that, perhaps reflecting the impact of the Great Depression and the Second World War, and the next million took another 26 years. In 1961, Dr. Kenneth R. Eldredge of the General Electric Co. was awarded Patent No. 3,000,000 for a device developed for Bank of America which was able to read checks at the rate of 750 a minute, thus establishing the foundation for electric check-reading systems now in use throughout the country.

It took American inventors only 15 years to chalk up their next million, however.

United States Patent System, the Plant Patent Act having been signed into law by President Hoover in 1930. The first plant patent was granted in 1931. A plant patent may be granted for inventing or discovering and asexually reproducing any distinct and new variety of plant, including cultivated sports, mutants, hybrids, and newly-found seedlings, other than a tuber propagated plant or a plant found in an uncultivated state.

Mikkelsen started plant hybridizing as a hobby, his primary training being in mining and geology. He employs such techniques as the use of mutation induction by chemicals and irradiation to produce new clones, in addition to conventional pollination practices. His expressed goals are to develop new flowering plants with better keeping qualities for the American home, faster cropping times for the producer and better shipping qualities for the distributors.

Mikkelsen currently holds 22 other plant patents and the assignment on 26 more.

Unit Tightens Commerce Ties With Non-Housing Construction Industry

A new committee will provide a forum in the Department of Commerce for the non-housing segment of the nation's construction industry, which accounts for roughly $100 billion or two-thirds of annual U.S. construction activity.

Chaired by the Under Secretary, the Construction Program and Policy Coordination Committee is intended to improve the working relationship between the industry and Commerce.

In a letter to the National Construction Industry Council, Commerce Secretary Elliot L. Richardson stated that the Committee "will provide a testing ground for achieving intra-departmental coordination and assure a continuous monitoring of our construction programs . . . The direct involvement of the Under Secretary assures effective communication among all units of the Department, between your industry and the Department's top policy echelon, and when needed, between the Department and other federal agencies.

The Committee consists of representatives from the Bureau of Domestic Commerce, the Bureau of International Commerce, the National Bureau of Standards, the Economic Development Administration, the Office of Minority Enterprise, the Bureau of the Census, and the Office of Energy Programs.

These agencies have responsibilities relating to non-housing construction, ranging from development of overseas opportunities for U.S. design and construction firms to the development of new construction technology and the collection of industry statistics.

The new committee was established in response to a proposal by the National Construction Industry Council, and followed suggestions from both labor and management for increased emphasis on the non-housing construction sector.

The NCIS's basic purpose is to provide a "single voice" for all parts of the construction sector, except housing, which is represented by the National Association of Home Builders.

CONSTRUCTION INDUSTRY GETS $2 BILLION SPUR FOR PUBLIC PROJECTS

The construction industry in economically sluggish communities around the country is getting a strong financial shot in the arm.

Commerce's Economic Development Administration (EDA) has selected 1,988 public works projects to be awarded $2 billion in federal grants. EDA has estimated that the funds will create 80,000 direct jobs in the construction industry and a similar number in related industries, such as construction materials.

These projects will fund local public works throughout the country in communities with high unemployment.

The projects were chosen from approximately 25,000 applications submitted to EDA in November and December. The grants are being made as part of the Public Works Capital Development and Investment Act of 1976. Funds for the program became available in late August and the EDA began accepting project applications October 26.

They include municipal buildings, utility lines, recreation facilities, schools, correction facilities and bridges, and other projects that communities have been unable to finance with their own funds.

Legislation requires that 70 percent of the $2 billion go to communities with unemployment rates higher than the national average for the three most recent months for which information was available. The other 30 percent will go to communities with unemployment rates below the national average, with priority to those with rates above 6.5 percent.

In selecting the projects, a scoring system was used that considered the severity of the unemployment in the community, the amount of labor required by the project, and the income level of the community.

Additional points were given to projects that carried out local plans and promised the greatest long-term benefits. Priority also was given to applications from local governments.

EDA says that no state will receive less than $10 million.

The program provides grants for 100 percent of the cost of projects. In some cases, however, local public works grants will get supplementary funds from other sources.

On-site employment on the approved projects will be under way within 90 days, with full-scale construction beginning as soon as weather permits.

The first group of projects approvals under the program provided $162,973,711 for 155 grants. Major projects in this group included:

American Samoa: $3,923,000 for college classrooms. *Arkansas:* Trumann, $1,296,052 for a water and sewer project.

California: El Dorado County, $1,070,000 for a Placerville library; City of Buena Park, $1,350,000 for general improvements; Escondido High School, $1,297,653 for additions; Los Angeles, $1,760,000 for street construction; also $1,925,000 for an administration building, and $1,424,500 for a sewer project; Citrus Community College District, $1,547,264 for an educational complex; City of Corona, $1,147,357 for a communications center; City of Duarte, $1,446,339 for streets; San Diego Unified School District, $4,995,000 for a junior high school; Garden Grove, $1,875,370 for a fire training center.

Connecticut: City of New London, $1,503,038 for an office building; City of Stamford, $2,000,690 for a maintenance center; City of Waterbury, $4,332,426 for a police headquarters building.

Hawaii: County of Hawaii, $2,660,000 for a public safety facility at Hilo; City and County of Honolulu, $1,118,140 for street repairs; also $1,708,384 for a sewer system.

Idaho: Shoshone - Bannock tribes, $1,509,997 for a tribal office at Ft. Hall. *Maine:* Town of Gorham, $1,361,385 for an addition to a junior high school. *Massachusetts:* City of Chelsea, $3,112,984 for a pedestrian mall; City of Cambridge, $1,729,962 for a fire station.

Michigan: Detroit School District, $5 million for an addition to Northwestern High School; City of Detroit, $4,272,294 for a Woodward Avenue Plaza enclosure; also $4,122,420 for Washington Blvd. Plaza reconstruction; $4,629,443 for rights of way renovation at retail centers; and $4,389,567 for a community center at Elmwood; City of Wayne, $1,944,671 for a parking structure; City of Sterling Heights, $1,599,000 for a library.

Minnesota: City of Duluth, $5 million for a public library. *Mississippi:* City of Mound Bayou, $4,912,900 for municipal administrative district improvements. *New York:* City of New York, $3,885,000 for sewer construction; $1,098,000 for sewer construction; and $1,302,464 for bridge improvements.

Oklahoma: Purcell public schools, $1,606,402 for a building and site devel-

opment. *Oregon:* Deschutes County, $3,176,360 for courthouse renovation; Eagle Point School District, $1,768,459 for school construction; Rogue Community College, $1,654,050 for classroom construction.

Pennsylvania: Forward Township Municipal Authority, $1,075,000 for water system improvements. *Texas:* City of Brownsville, $1,102,271 for storm sewers; South Plains College at Levelland, $2 million for hospital renovation; City of Port Neches, $1,312,550 for water system improvements.

Washington: City of Centralia, $1,208,100 for library expansion and renovation; Clark County, $1,898,118 for juvenile hall construction. *Wisconsin:* City of Milwaukee, $3,348,000 for bridge replacement.

POLLUTION CONTROL PROGRAMS MOVING TO BLACK SIDE OF LEDGER

Pollution control is moving from the red to the black side of industrial ledgers.

Many U.S. manufacturers are finding that, in addition to the warm glow they get from "saving the environment," their bottom lines are also making very heart-warming reading due to their anti-pollution programs.

Leading firms such as 3M and Dow Chemical report savings of millions of dollars per year. They credit much of the success to pollution *prevention,* which is much less costly than cleaning up the mess once it has been made.

3M has reportedly achieved savings of $10 million in the last 18 months. Dow Chemical has reported an annual saving of $10 million per year as a result of in-plant changes to reduce pollution.

The Commerce Department and the Environmental Protection Agency have been so impressed by their efforts, in fact, that they are sponsoring a January 17-18 conference at Chicago's Hyatt Regency O'Hare Hotel, during which firms can share their profitable anti-pollution measures with representatives of more than 300 Midwestern firms.

State manufacturing associations and chambers of commerce from Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin are also involved, and corporate co-sponsors include Commonwealth Edison, Eli Lilly, Dow, Hydroscience, Republic Steel, 3M and St. Regis Paper.

The first day will feature process changes that have saved firms' money while conserving resources and reducing pollution. The agenda will be geared toward corporate decision-makers. The second day will cover specific technical approaches, featuring the most advanced information available, and will be aimed at environmental directors.

Registration for either or both days is $50. Make checks payable to EPA/DOC Conference, Box 50307, 'F' Street Station, Washington, D.C. 20004, or call Frank Corrado at 312-353-2072.

Commercial Fish Catch Seen At Ten-Year High

U.S. commercial fishery landings for 1976 are estimated at about 5.2 billion pounds—the largest in ten years, acording to the National Oceanic and Atmospheric Administration's National Marine Fisheries Service. This represents a seven percent increase over 1975. "Fishery landings" is the amount of fish brought to docks by fishermen.

The record dockside value this catch brought—exceeding $1 billion—is due to a steady increase in foodfish catches and to generally rising prices.

The Commerce Department agency says that total quantities of domestic tuna processed by California canneries are running at least 10 percent ahead of 1975, as are those of domestic fish at canneries in Puerto Rico (Puerto Rican data are not included in the 5.2 billion-pound total catch).

Total production of shrimp in the Gulf of Mexico is up by a third, according to NOAA figures, and Alaska shrimp is expected to be up 20 percent or more. Alaska snow crab should set a new record. Pacific salmon are up about 40 percent over 1975, after two successive poor years. Landings of Maine sea herring, American lobster, and sea scallops are expected to be up, as are those for cod and flounder.

Landings of fish used for processing into meal and oil also appear to be above the 1975 levels. Increased production of Atlantic and Gulf of Mexico menhaden will offset a decline in California anchovy. Heavier-than-expected production of menhaden and anchovies in December could make 1976 the best year for such industrial fish since the record year of 1962.

The chief declines will be in clams and blue crabs. Resource problems with the surf clam now restrict Atlantic clam landings, which are expected to be down by a third. Total Atlantic and Gulf of Mexico blue crab production will be off by about 25 percent, but fairly large resource fluctuations are normal in this fishery.

The first comprehensive report on U.S. commercial fishery landings for 1976 will be contained in "Fisheries of the United States, 1976" scheduled for publication in April.

Copies may be ordered in advance from the Director, National Marine Fisheries Service, NOAA, Washington, D.C. 20235.

ERDA, AID To Share U.S. Energy Knowledge With Developing Lands

Two federal agencies are coordinating their efforts to help the developing nations, which are particularly hard-hit by higher energy prices, meet their energy needs.

Congress has directed the Energy Research and Development Administration to cooperate in international research on energy and environmental problems. The Agency for International Development, of course, has a standing responsibility to promote the economic progress of the developing nations in any way possible.

The energy situation in many developing countries is critical.

A recently-signed agreement between the two U.S. agencies reflects an increased emphasis by ERDA on providing developing countries assistance in designing and implementing a wider spectrum of energy options. Emphasis will be on the use of renewable energy sources such as solar and wind energy and conversion of solid wastes to useful energy sources.

While no specific funding or projects are outlined in the accord, the two agencies plan cooperative activities to assist developing countries in identifying their domestic energy requirements and in adapting and demonstrating alternative energy technologies which are appropriate to these needs.

ERDA is developing an active international energy R&D program involving both bilateral and multilateral agreements and arrangements.

Industrial growth in the less-developed nations is expected to continue to depend on conventional urban energy systems, such as coal-fired and nuclear power plants. But only a small proportion of the population in most of these countries is served by a power distribution network. Rural areas depend generally on limited and uncertain supplies of diesel fuel or kerosene, or on such non-commercial energy sources as firewood, dung, and agricultural residues.

Most of the energy-related assistance that has been provided to the less-developed countries to date has focused on industrial-urban sector requirements.

In this agreement, ERDA and AID are bringing attention to the problem of meeting rural as well as urban energy needs. A major emphasis of the cooperative activities will be the development and commercialization of small-scale, low-cost power systems—for example solar and wind-powered irrigation pumps and methane generators—for use in rural areas.

The agreement also contemplates support for training of scientists and planners from developing countries and arrangements for scientists in developing countries to conduct research in ERDA laboratories.

REDUCING HAZARDS—*Voluntary standards have been adopted to improve the safety of home playground equipment and cut down on injuries to children.*

New Standard Covers Home Playground Items

Manufacturers of home playground equipment now have safety guidelines to follow in the form of a U.S. Commerce Department Voluntary Product Standard.

The standard, which was processed by Commerce's National Bureau of Standards (NBS), went into effect October 1. It was processed at the request of the National Association of Children's Home Playground Manufacturers, and covers play equipment intended for use by children between two and ten years of age.

Designated PS 66-75, the standard, covers such items as jungle gyms, merry-go-rounds, dome climbers and kiddie rockers.

NBS also recently announced a separate Voluntary Product Standard for toys; it went into effect September 22.

Home playground equipment that is manufactured in compliance with PS 66-75 should be safe for children during normal use or "reasonably forseeable abuse." The standard permits producers and distributors to indicate that their equipment conforms to the standard through marking, labeling and advertising.

Home playground equipment that complies with the standard should be safe from toxic paint; sharp edges, points and surfaces; pinch, crush and shear points, and from protruding ends of vertical parts. Standards are also set for acute angles; spacing between swinging elements and between moving elements and stationary frame members; enclosed openings, and hardware. The standard also specifies weight (or load) requirements that the equipment must meet.

For swing sets, the standard specifies dimensions and weight loads for seats, minimum ground clearance, and dimensions.

Other construction characteristics are specified for slides and slide ladders, as well as stability requirements for free standing slides.

PS 66-75 is also designated as American National Standard Z 304.1-1976. Printed copies are available for 45 cents per copy from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

AFTER THE ELECTION, U.S. VOTER TURNOUT ALWAYS JUMPS 7%

Polls are a risky device for predicting voter behavior before an election, but apparently they're not much more reliable even after the election is history. For example, while only 53 percent of the 146.5 million eligible Americans showed up at the polls last November, about 60 percent of those Americans interviewed by Commerce's Census Bureau after the election claimed that they had voted.

This 7 percent "fudge factor" is not unusual, according to Census. . . . it has persisted in all previous voter participation surveys conducted by the Bureau. Since the degree of respondent dishonesty remains the same, Census feels that the results of its surveys provide a reliable gauge of American voter behavior. Major findings of this year's survey follow.

The reported voter turnout was about 4 percentage points lower in the 1976 election than in 1972 and about 10 percentage points lower than in 1964, when the Bureau first measured voter participation in its monthly *Current Population Survey*.

The report attributes the decrease in voting partly to a significant decline in registration between the 1972 and 1976 Presidential elections. Although registration rose about 4 percent from 1974 to 1976, as it has between past Congressional and Presidential elections measured by the Bureau, the rise was not nearly enough to offset a 10 percentage point decline between 1972 and 1974.

However, the voting turnout of those who registered was slightly higher in 1976 than in 1972, up to 89 percent from 87 percent. But both figures were lower than 1968, when 91 percent of those registered said they voted.

The decrease in voting was most evident among young persons, particularly those 18 to 20 years old. Reported participation by this age group dropped to 38 percent, from about 48 percent in 1972. This is about the same percentage drop as the drop in registration for this age group between 1972 and 1976.

The difference in the participation level between men and women was smaller in 1976 than in any previous election measured by the Bureau. The rate was only 1 percentage point greater for men in 1976, compared with 5 percentage points in 1964. But because there are more women of voting age, they actually cast 53 percent of the ballots in 1976.

Reported voter participation rates for whites, blacks and persons of Spanish origin all dropped between 1972 and 1976. For whites the decrease was from 65 to

61 percent; for blacks, 52 to 49 percent; and for persons of Spanish origin, 38 to 32 percent.

Compared to 1964, voting in the North and West was down 12 percentage points for whites and nearly 20 percentage points for blacks. In the South, blacks had about the same participation rate as in 1964 and 1972. The participation rate for whites in the South was slightly below 1964 levels but about the same as in 1972. In 1968, the rates for both blacks and whites were somewhat higher in the South than in the other years measured by the Bureau.

The report, which presents advance statistics on voting and registration, includes for the first time data for the 15 largest states and 30 largest Standard Metropolitan Statistical Areas. More detailed tabulations and analysis will be published later in a final report.

Single copies of *Voting and Registration in the Election of November 1976 (Advance Report)*, P-20, No. 304, may be obtained for 35 cents from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 or from Commerce District Offices in major cities of the U.S.

Third Quarter Nonfinancial Productivity Up Slightly

Productivity in nonfinancial corporations during the third quarter of 1976 increased at only half the second quarter rate, 2.5 percent as opposed to 5.1 percent, seasonally adjusted. Growth in output was significantly slower—3.6 percent—while the growth of hours worked was down only slightly—a 1 percent increase, as compared to 6.8 percent and 1.6 percent, respectively, in the second quarter.

The nonfinancial corporate sector includes all corporations doing business in the United States with the exception of banks, stock and commodity brokers, finance and insurance companies, and credit agencies.

Hourly compensation—wages and salaries, fringe benefits, and employer contributions to employee benefit plans—increased 6.3 precent in the third quarter in nonfinancial corporations, the smallest since the third quarter of 1975. Unit labor cost, which is affected by changes in hourly compensation and productivity, increased 3.7 percent in the third quarter. In 1975, unit labor cost went up 7.4 percent, on the average.

Real hourly compensation—hourly compensation adjusted for changes in the Consumer Price Index—rose 0.2 percent, the smallest increase since the third quarter of 1975.

Unit nonlabor payments—which include depreciation, indirect business taxes and profits—increased 8.9 percent, the largest such rise since the third quarter of 1975. The implicit price deflator, which shows the effects of changes in unit labor cost and unit nonlabor payments, increased at its fastest rate this year—up 5.5 percent.

Revised measures are available for the private businesses, nonfarm business and manufacturing sectors. The new measures show that productivity in these sectors was lower in the third quarter than had been reported earlier, based on preliminary measures. In the private business sector, the revised increase was 3.1 percent, as opposed to the 3.8 percent originally reported. In the nonfarm business sector, 2.9 percent as opposed to 3.6 percent. And in manufacturing, the revised figure is 4.6 percent, as opposed to 5.7 percent.

Booklet Gives Homeowners Step-By-Step Plans For Reducing Energy Use

Winter is only two weeks old, but many areas of the country have been experiencing cold weather for some time already.

Homeowners looking for ways to reduce their heating bills can find the answers in a handy guide from the Commerce Department's National Bureau of Standards and the Federal Energy Administration.

Making the Most of Your Energy Dollars contains step-by-step instructions for calculating the amount of insulation, storm windows and doors, weather stripping and caulking to add to each home. From this calculation, a homeowner can determine the best combination of energy conservation measures that give the greatest long-term savings.

The twenty-page booklet contains temperature zone maps, computation tables and easy-to-follow worksheets. A key feature of the booklet is that it takes into consideration climate, the price of energy a homeowner uses to heat and cool a house, and the cost of making the improvements.

"Some homeowners may be surprised to learn how much insulation is needed to get the best results," says NBS economist Stephen R. Petersen. For example, a homeowner who heats with oil in Minneapolis, would need R-38 insulation in the attic to get the greatest net savings on heating bills. "That's the equivalent of 30 cm (about 12 inches) of mineral fiber batts or 45 cm (about 18 inches) of mineral fiber loose fill insulation," he says.

Even in milder climates, such as Atlanta, Petersen figures that R-30 insulation may be justified if a homeowner uses electric heat at current high prices. "Whatever the level of insulation, homeowners should always select insulation on the basis of cost per resistance unit—the so-called R value—rather than on cost per inch," Petersen says. "This is because energy savings are provided by resistance to heat flow and not thickness *per se*. Two different kinds of insulation may have the same thickness, but the one with the higher R value will perform better."

The booklet also emphasizes that a balanced combination of improvements should be used. To maximize dollar savings, a homeowner should also use storm windows and doors. In addition to insulation in the attic, insulation in exterior walls, under floors over unheated areas and around ducts in unheated areas is important and also can save much energy and money for the homeowner.

Most of the 40-million owner-occupied houses in the United States could use additional insulation to offset sharply rising energy prices, Petersen notes. "And insulation is not only a good investment for winter heating. It will help save energy in the summer also and is usually a good investment in geographic areas that require a lot of air conditioning, even if heating requirements are low."

In addition to guidelines on how much insulation and other energy conservation investments to add to a house, the guide also estimates how much the improvements will cost and how long the payback periods will be.

Order *Making the Most of Your Energy Dollars* for 70¢ from Consumer Information, Pueblo, Colo. 81009 (Dept. #065E).

Planning In Apparel Industry Book Subject

A new publication of the American Apparel Manufacturers Association declares that uncertainties regarding material, energy, labor and the economy in general make long-range planning by the apparel industry more imperative today than ever before.

How To Plan: A Guide to Long Range Planning in the Apparel Industry outlines objectives, strategies and action programs to deal with changing times. Specifically, the book calls for an in-depth analysis of a company's present activities—and a projection of prospective trends—in such areas as marketing/merchandising, manufacturing, administration and financial management.

How to Plan is in its third edition as an outgrowth of a popular AAMA seminar on the subject. Copies may be purchased, at $25 for nonmembers, $10 for members, from AAMA, Suite 800, 1611 N. Kent St., Arlington, Va. 22209 (703-524-1864).

Industries' Voluntary Energy Conservation Effort Gets Results

Don't look now, but voluntary energy conservation by industries seems to be working.

A sustained and successful effort to improve industrial energy efficiency is shown in the fourth semi-annual report on voluntary industrial energy conservation issued by Commerce's Office of Energy Programs and the National Energy Conservation Programs office of the Federal Energy Administration.

Some of the industries which have continued to show significant gains in energy efficiency through the current reporting period are: textiles, whose energy efficiency improved 11.8 percent; petroleum refining, 10.7 percent; flat glass manufacturers, 19.5 percent; and pressed and blown glass manufacturers whose energy efficiency rose 13.8 percent.

Energy use efficiency is the change in energy use per unit of productive activity measured against a base period, usually 1972.

The report also shows that the number of industry groups voluntarily reporting energy conservation results under the Commerce Department program has risen to 39 from the 30 represented in the previous report. New industries reporting include air conditioning and refrigeration; expanded shale, clay and slate; fertilizers; forging; grocery manufacturers; clay pipe; pharmaceuticals; refractories, and rubber.

Commerce's Office of Energy Programs is continuing to work with additional industry groups to develop energy conservation programs and voluntary reporting. The program is expected to gain added impetus when the industrial conservation program of the Energy Policy and Conservation Act of 1975 comes into effect in 1977, since that law exempts companies from making individual mandatory reports to the government if they are full participants in an adequate voluntary program.

Copies of *Voluntary Industrial Energy Conservation Report 4* are available from the Office of Energy Programs, Room 2203, U.S. Department of Commerce, Washington, D.C. 20230.

Business List Directory Can Aid Marketing

Need to expand your customer lists? . . . seek new markets? The new *National Business Lists Directory* contains more than six million businesses, professionals and institutions in over 1,000 markets.

The computerized directory is the third, updated edition. Each of the listed businesses is classified by Standard Industrial Classification. Further definition includes geographic location, financial strength, number of employees, and headquarters or branch locations.

Total market size is uncovered for all the basic industries such as manufacturers, wholesalers, retailers, contractors, service and financial firms. Institutional markets include schools, churches, hospitals, associations and the professions.

A copy of the NBL Directory may be obtained at no charge by writing National Business Lists, Inc., Dept. Z, 162 N. Franklin St., Chicago, Ill. 60606.

Consumer Input Sought On Weights And Measures

Consumers are invited to take an active role in the interim meeting of the National Conference on Weights and Measures, January 24-28 at Commerce's National Bureau of Standards in Gaithersburg, Md.

"We believe that the participation by representatives of consumer organizations is vitally necessary in aiding our deliberations," stated Harold F. Wollin, executive secretary of the Conference which brings together weights and measures enforcement officials from around the country.

Consumers wishing to observe or make statements should contact Wollin at the Office of Weights and Measures, Room A209, Metrology Building, National Bureau of Standards, Washington, D.C. 20234 (301-921-2401).

The National Conference, which meets annually in July, adopts model codes and regulations which are the basis for state and local codes and regulations in this area. The interim meeting establishes the action items for the July general meeting.

The January meeting will consider a proposal to label packages with the number and size of cups that can be made from the contents of packages of instant tea, coffee and cocoa. The National Coffee Association opposes such a declaration.

Another proposal would provide a uniform method of sale for building insulation. An investigation by the Milwaukee Bureau of Consumer Protection and Environmental Health found at least ten different quantity declarations on packages of poured insulation. The National Cellulose Insulation Manufacturers Association recommends selling insulation according to "R" values which are the measure of its ability to decrease heat flow. The Conference is particularly interested in receiving consumer reaction to this proposal.

Other proposals would require that coffeemakers, thermos bottles, buckets, garbage cans, pails and wastebaskets be sold by metric capacity, and that polyethylene film (plastic wrap used in kitchens) be labeled for length, width, thickness and net weight.

Thermographic Survey Helps Detect Heat Leaks From Industrial Plants

U.S. manufacturers have a useful new tool to help detect energy leaks in their plants. The new technique, infrared thermography, is described in a booklet from Commerce's National Bureau of Standards, which also describes how it is used in surveys of industrial plants.

The report also discusses the results of 16 such surveys by teams of engineers from NBS, and how the information obtained was useful in pinpointing energy losses. The plants in the NBS survey included tire manufacturing, cement making, copper refining, forging and heavy equipment manufacturing.

However, the technique is applicable to many other industrial areas. Because of the significant information gained in these surveys, the authors of the publication highly recommend the use of infrared thermography as a tool in industrial energy conservation programs.

Thermography measures the temperature of various types of surfaces. Notable applications include thermal detection of diseases such as cancer and circulatory problems in human beings, aerial land mapping of hot surfaces to detect thermal pollution and geological formations, and remote scanning of buildings to detect heat losses. More recently, the technique has been used to detect defects in high amperage electrical connections, transformers and steel processing furnaces.

Building on these technologies, NBS engineers adapted the methodology to survey heating systems in industrial plants, in addition to the electrical and mechanical systems, to find areas where energy conservation actions could be applied. The survey was found to be an excellent means of detecting environmental heat losses in process equipment and auxiliary systems.

The survey was also useful in detecting "hot spots" resulting from problems in the basic insulation design, flaws in insulation, and maintenance errors. Many hot spots indicated malfunctions in the equipment such as leaking valves, leaking electrical components, failures in materials and components in invisible areas of equipment, overheated bearings and the like. The information gained from the surveys helped engineers to develop priorities, estimate the magnitude of the heat loss due to a given technique defect, and take corrective action.

Applications of Thermography for Energy Conservation in Industry, NBS Technical Note 923, is available for 75 cents a copy from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Order by S.D. Catalog No. C13.46:923.

MANY PROGRAMS AFOOT TO IMPROVE 1980 CENSUS

Census Bureau research and evaluation indicate that approximately 2.5 percent of the U.S. population was not counted in the 1970 census. A major goal set by the Bureau for the 1980 Census of Population and Housing is to improve coverage of the total population. Although the 1970 record represents some gain over 1960, the critical importance of the counts in legislative apportionment, fund allocation, program planning and other functions means that intensive efforts must be made to lower the overall rate of under-enumeration and reduce geographic and other differentials.

Another major goal of the 1980 census is to provide accurately and rapidly the small-area population counts needed for reapportionment and redistricting, among other purposes.

The timetable for the 1980 census requires that the detailed subject content of the basic questionnaires be fixed by the spring of 1977. A "dress rehearsal" test census will be conducted in April 1978, and final 1980 census questionnaires will go to print in January 1979.

In an effort to improve coverage, a national mail test for subject matter items is now under way. Two national panels, each consisting of approximately 14,000 households, receive alternate versions of questions on such subjects as ethnic origin, current language spoken, disability and others.

Different address-listing techniques are being tested in nine rural counties in Louisiana, Arkansas and Mississippi, to see their differential effect on coverage, time and cost.

In yet another test, the Bureau is trying out a new system of defining enumeration districts (the units of area that an enumerator is responsible for covering, designed to fit into a political or statistical area for which the Bureau must provide data). The major focus of this test will be on the use of natural boundaries, preferable roads, for delineating data collection units.

Two pretest censuses have been scheduled in a further effort to remove any bugs before 1980. One was in Salem County, N.J., and the other was conducted by mail to a national sample of households. The primary focus of both operations was testing the condensed income questions that might be used to provide a 100 percent income measure in 1980.

A full-scale pretest was held last April in Travis County, Texas (see *Commerce America*, March 15, 1976 issue), and a census of the city of Camden, N.J., was conducted in September. The Travis test dealt with listing and enumeration procedures, review of detailed preliminary population and housing unit counts by local officials, and field control and reporting methods. Camden was selected for testing techniques designed to deal with inner city enumeration problems.

Seeking suggestions

Public meetings have been scheduled in 73 cities, covering the 50 states and the District of Columbia, during the past year. The Bureau has held discussions with numerous organizations, and solicited suggestions from governors of all the states. Representatives of 85 federal agencies with an interest in the 1980 census have formed a council, to provide a systematic channel of communication between the agencies and the Bureau.

Another major pretest census is planned for the spring of 1977, in Oakland, building on the experience of Travis, Camden and the national mail test.

The Census Statistical Area Committees are reviewing census tracts to assist the Bureau in its preparation for the 1980 census. The Bureau is delineating tracts for all Standard Metropolitan Statistical Areas, as well as for counties adjacent to SMSAs and for those populated counties which nearly meet the SMSA criteria. Additionally, tracts cover five entire states: Delaware, Hawaii, New Jersey, Rhode Island and Connecticut.

The Census Bureau has received complete recommendations from committees representing areas having more than 75 percent of the United States' existing or potential census tracts. Most of the remaining committees have indicated that their reviews are well under way, and they will make their recommendations within 30-60 days.

The encouraging response indicates an increasing nationwide interest in small area statistics from the broad spectrum of data users that are members of the Census Statistical Area Committees. The local committees consist of representatives from city and county governmental units, such as planning, police, health, fire, highway, building permit and inspection, libraries, and boards of education; and from economic development councils, councils of governments, neighborhood organizations, universities, social agencies, newspapers, public utilities and local businesses.

Two types of changes for the 1980 census are proposed most often. The most common request is to subdivide existing tracts because of significant population growth reflected in the 1970 figures, or projected for 1980. The other significant change proposed is to relocate tract boundaries which currently follow corporate limits if they do not coincide with physical features, such as streets, railroads or streams, and align them with visible features.

The Committees have also assisted the Census Bureau in the review and designation of central business district tracts for the 1977 Census of Retail Trade.

Equipment Leasing, Renting Likely To Continue Gains

Continued growth of the equipment leasing industry during the next decade is expected to finance a significant share of capital acquisitions, according to a new Commerce Department study. The report points out that leasing of business equipment has become a widespread practice in the United States, and now accounts for a sizable share of all capital goods in use.

At the same time, growing acceptance of the rental concept as providing convenience and personalized service for consumers also indicates future expansion possibilities for the equipment rental industry.

The 40-page publication, *Equipment Leasing and Rental Industries: Trends and Prospects*, contains information on developments and prospects for these two fast-growing industries. Topics covered in the equipment leasing section include various types of leases, extent of leasing, major types of equipment leased, and the impact of economic and regulatory developments on lessors and lessees.

The rest of the booklet contains a discussion of equipment rental activity and markets. In addition, appendix materials provide background information on leasing.

The study is available at 75 cents a copy from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or through most Commerce Department district offices.

New Book Tells How To Do Business In California

The 1977 edition of *Doing Business in California* has just been published. The guide covers such subjects as capital formation, research and development funding, state government agencies' requirements and fees (including incorporation), and an extensive list of free publications in business development.

Formerly published by the California State Department of Commerce, the current book has been edited and distributed by the non-profit Business Development Institute. Copies are available, priced at $5, from the institute at 717 Lido Park Drive, Newport Beach, Calif. 92663 (714-675-8030).

Business Conditions Digest Revised To Suit Users' Needs

Commerce's facts and figures which chart the ups and downs of the U.S. economy, always interesting but sometimes a bit difficult to comprehend, are being presented in a revised format. The November issue of *Business Conditions Digest*—delayed in release because of the changes—introduces major revisions in the periodical's content and organization.

The changes result from a comprehensive study of business cycle indicators begun four years ago by Commerce's Bureau of Economic Analysis in consultation with outside experts on business cycle analysis. A special supplement to *BCD*, to be published shortly, will show step-by-step methods of computing composite indexes, historical data, and descriptions of the series. Technical papers published in the May and November issues of 1975 dealt with the new composite indexes resulting from the study.

The revamped *BCD* places greater emphasis on the cyclical indicators, the list of which has been expanded by 32, to a total of 111. The list of series used in the computation of composite indexes of leading, coincident, and lagging indicators remains the same.

Taking into account preferences expressed in a user survey, *BCD* has been made easier to use by tightening the basic organizational structure, moving composite indexes to the beginning of the publication, and reducing the number of charts.

The November issue also presents the overhaul of composite indexes that is performed at intervals of twelve to eighteen months to reflect revisions in component series. In such regular overhauls, composite indexes are recomputed back to 1948. Revisions in basic data have resulted in sizable changes in the indexes in some cases.

The issue also introduces innovations in the method of constructing composite indexes, so that they enhance the comparability among the leading, coincident, and lagging indicators.

The major innovation was to superimpose on the leading, coincident, and lagging composite indexes an estimated long-run trend in aggregate economic activity. Representing aggregate economic activity are four series classified as coincident indicators: employees on nonagricultural payrolls, industrial production index, personal income less transfers in 1972 dollars, manufacturing and trade sales in 1972 dollars.

This trend adjustment helps make the indexes more useful as indicators of the current and future levels of economic activity, in addition to their traditional uses as indicators of change in the direction of aggregate economic activity.

For a comprehensive view of developments in the economy as seen through cyclical indicators, all future news releases on the subject will show data for all composite indexes — leading, coincident, and lagging. The leading index is designed to predict movements in the coincident index. The coincident index is designed to represent aggregate economic activity. The lagging index is designed to confirm developments in the coincident index, to tell whether they are due to chance or reflect basic changes in business conditions.

BCD is prepared by the Bureau of Economic Analysis. It is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Annual subscriptions are priced at $55.25.

Radar Detectives Learn To Predict Tornadoes

There is no practical way, in the present state of the art, to lick a tornado. But Commerce scientists have developed techniques for spotting them sooner, and thereby providing prospective victims with more lead time to prepare for their devastating fury.

Scientists of Commerce's National Oceanic and Atmospheric Administration (NOAA) report that with experimental radar they can detect impending tornadoes more than half an hour before the lethal descent of the funnel clouds, and can pinpoint the tornadoes once they have developed.

Researchers at NOAA's National Severe Storms Laboratory in Norman, Okla., have pinned down a characteristic radar "signature" that reveals the presence of rotating motions of the atmosphere within thunderstorms. With Doppler radar, a special kind of radar, they say it is possible to detect both the narrow vortex of a tornado and the large-scale circular motion, called a mesocyclone, that can breed tornadoes.

The NOAA group has defined objective criteria for identifying tornadoes and mesocyclones by their radar signatures, and they helped identify nine tornado signatures between 1973 and 1975. Tornadoes or funnel clouds were reported with respect to seven of these cases. The other two occurred in rural, sparsely populated areas where a tornado could have gone unnoticed.

Out of 350 thunderstorms the radar at Norman scanned in a five-year period ending in the spring of 1975, 37 mesocyclones were identified. Of these, at least 23 were associated with reported tornadoes and 12 others produced damaging wind and hail. Fully 95 percent of these mesocyclones produced some type of surface damage.

No tornadoes occurred without the preceding mesocyclone signature. The average lead time between the first identification of a mesocyclone and the occurrence of a tornado was 36 minutes.

The vortex identification technique depends on the unique quality of Doppler radar. Unlike conventional radar, Doppler can reveal the velocity of winds parallel to its line of sight by a change of frequency in echoes from wind-borne targets such as rain or hail. This change is called "a Doppler shift." Three years ago NOAA specialists found indications that a tornado vortex could be recognized up to 55 miles away with the laboratory's Doppler radar. These findings were confirmed last year.

There are several problems to be solved before the radar technique can be used to provide tornado warnings. For example, all the data so far are for spring storms in Oklahoma. Data must be collected on mesocyclones in other seasons and regions. Another problem is how to distingush between mesocyclones that produce tornadoes and those that do not.

Proposed Standard Would Regulate Soft Drink Bottles

Commerce's National Bureau of Standards has begun circulating a draft voluntary product standard for the strength and durability of carbonated soft drink bottles to interested manufacturers, distributors and consumers.

If the proposed standard is acceptable to these groups, it will be published as a Department of Commerce Voluntary Product Standard. The standard, which was requested by the Glass Packaging Institute and the National Soft Drink Association, is designed to improve the safety performance of conventional glass bottles used as containers for carbonated soft drinks.

The proposed standard contains requirements for temper number, thermal shock resistance, internal pressure strength, simulated impact resistance, abrasion resistance, visual inspection, wall thickness, dimensions and weight, and bottle identification marks. The proposal also spells out inspection and test procedures to determine whether soft drink bottles conform to the standard.

Plastic sheathed bottles are not covered by the standard.

Copies of the proposed standard, designated TS 214c, are available without charge from the Standards Development Services Section, National Bureau of Standards, Washington, D.C. 20234. The period for comments closes January 17.

Papers On Computers Sought For Symposium

A call for papers on Systems and Software: Operational Reliability and Performance Assurance has been issued for a symposium to be held June 2 at the National Bureau of Standards. Sponsors of the event are the Association for Computing Machinery, Washington, D.C., Chapter, and NBS's Institute for Computer Sciences and Technology.

Technical papers of a tutorial nature, describing practical experience with design or implementation, or presenting new research results, are sought. Appropriate topics are those relating to operational reliability and performance assurance of systems and software, such as management and procurement of software, networks & distributed systems, mini and micro applications, real-time applications, and others.

Three drafts of the paper, double-spaced, and three copies of a 150-word abstract should be sent to Dr. Stuart Katzke, Room A-265, Technology Bldg., National Bureau of Standards, Washington, D.C. 20234 (301-921-3861) by January 30. Authors will be notified of acceptance by March 1, and final camera-ready copy is due for publication in the proceedings by April 8.

New Guide Spotlights U.S. Tourism Attractions

The United States Bicentennial celebrations made many Americans aware of the variety of beautiful sights and exciting activities that can be found in this country. To help them continue this discovery, Commerce's United States Travel Service has compiled a series of flyers listing places to go and things to do in the United States.

Prior to 1976, USTS was authorized only to promote U.S. tourism in foreign countries. The international visitors were needed to help close the travel gap in the U.S. balance of payments—the difference between what Americans spend traveling abroad and what foreigners spend here. But beginning with the Bicentennial year, USTS launched a campaign to persuade Americans to see their own country.

The *Traveler's Guide to Special Attractions* consists of 10 colorful flyers extolling such diverse attractions as American culture, American Indian festivals, industry tours, skyscrapers, underwater recreation, automobile museums, oceanariums, winter resorts, health spas, and the supernatural.

Copies of the *Traveler's Guide* can be obtained without charge from: United States Travel Service, U.S. Department of Commerce, Washington, D.C. 20230.

Calendar Of Business Events

Jan. 5—Gaithersburg, Md.—Symposium on Commodity Supply Policy, National Bureau of Standards. Contact: Gregory Tassey, A 735, Admin. Bldg., NBS, Washington, D.C. 20234 (301-921-3171).

Jan. 5—San Francisco—Time Mgt. for Managers seminar, Golden Gate Univ. Contact: Dorothy Satir, Ctr. for Mgt. Development, Golden Gate Univ., 536 Mission St., San Francisco, Calif. 94105 (415-391-7800, ext. 323).

Jan. 8—San Francisco—Incorporating for Professionals seminar, Golden Gate Univ. Contact: see address above.

Jan. 10-12—Gaithersburg, Md.—Workshop on Applications of Phase Diagrams in Metallurgy & Ceramics, National Bureau of Standards. Contact: Ronald Johnson, B 348, Materials Bldg., NBS, Washington, D.C. 20234 (301-921-2835).

Jan. 10-13—Minneapolis—Marketing and financing in the construction industry seminars, conducted by Jack Miller. Contact: Madeline Graeter, Group Communications, 6101 SW Freeway, Suite 401, Houston, Tex. 77057 (713-664-8818).

Jan. 11-12—Chicago—Food Industry Instrument Needs, Holiday Inn O'Hare/Kennedy. Contact: Registrar, Instrument Needs Seminar, Suite 2155, 2 N. Riverside Plaza, Chicago, Ill. 60606 (312-346-3942).

Jan. 12—Houston—Selection Interviewing: Strategies, Tactics & Skills Practice, Shamrock Hilton Hotel. Sponsor: New York Univ. Contact: Heidi Kaplan, New York Conference Management Ctr., 360 Lexington Ave., New York 10017 (212-953-7266).

Jan. 12-13—Clemson, S.C.—Energy Conservation in the Textile Industry. Sponsors: Clemson Univ., Commerce Columbia District Office, Georgia Tech. Contact: Dr. Ralph D. Elliott, 112 Sirrine Hall, Clemson U., 29631 (803-656-2200). 2200).

Jan. 12-14—Akron — Sales Management seminar, Akron Downtown Holiday Inn. Contact: Dr. Joseph C. Latona, Bureau of Organizational Development, Univ. of Akron 44325 (216-375-7337).

Jan. 13—Atlanta — Selection Interviewing: Strategies, Tactics and Skills Practice, Stauffers Atlanta Hotel. Sponsor: New York U. School of Continuing Education. Contact: Heidi Kaplan, see address above.

Jan. 14—New York—Selection Interviewing: Strategies, Tactics and Skills Practice, Barbizon Plaza Hotel. Sponsor: New York Univ. Contact: Heidi Kaplan, see address above.

Jan. 14—Sacramento—Business Opportunity/Federal Procurement Conference, Convention Ctr. Sponsor: Rep. John E. Moss. Contact: Jerry Wymore, c/o Rep. Moss, 650 Capitol Mall, Room 8058, Sacramento, Calif. 95814 (916-440-3543).

Jan. 16-21—Dallas—Dallas Winter Homefurnishings Market, Dallas Market Ctr. Contact: Delores Lehr, V.P., Dallas Market Ctr., 2100 Stemmons Freeway, Dallas, Tex. 75207 (or 1-800-527-2730).

Jan. 17-18 — San Francisco — Fundamentals of Management & Organizational Behavior for Women, Hyatt Regency Hotel. Sponsor: The Wharton School. Contact: Heidi Kaplan, see address above.

Jan. 17-19—Washington—Value Management. Georgetown U. Contact: Betsy Girton, Continuing Mgt. Education, Georgetown U., RCA Bldg.-Education Ctr., 1901 N. Moore St., Rosslyn, Va. 22209 (703-525-6300).

Jan. 19-21 — Dallas — Contract/Design Show (CONDES IV), Dallas Market Ctr. Contact: Delores Lehr, see address above.

Jan. 20-21—New York—Strikes, Stoppages and Boycotts conference, New York Hilton Hotel. Contact: Practising Law Institute, 810 Seventh Ave., New York 10019 (212-765-5700).

Jan. 24-25—Washington — Terrorist Activities Workshop, Twin Bridges Marriott Hotel. Contact: American Society for Industrial Security, 2000 K St. NW., Suite 651, Washington, D.C. 20006 (202-331-7887).

Jan. 24-26 — Philadelphia — Women in Management, Drexel Univ. Contact: Director, Continuing Education, Drexel Univ., 32nd & Chestnut Sts., Philadelphia, Pa. 19104 (215-895-2154).

Jan. 24-26—New York—Increasing Productivity seminar, Barbizon Plaza. Sponsor: New York U. Contact: Heidi Kaplan, see address above.

Jan. 25-27—Chicago—Lasers in Modern Manufacturing, Holiday Inn O'Hare Kennedy. Contact: Michael Tolzdorf, Society of Manufacturing Engineers, P.O. Box 930, Dearborn, Mich. 48128 (313-271-1500).

International Commerce Report

OPEC Price Rise Seen Blow To World Economy

PRESIDENT FORD TERMS ACTION 'IRRESPONSIBLE,' CALLS FOR NEW CONSUMER ENERGY RESPONSES

The decision by the OPEC group of oil-exporting countries to raise prices "can only be termed irresponsible" in its effect on the world economy and must lead to stronger conservation measures and renewed efforts to find new energy sources, President Ford has declared.

In reacting with regret to the mid-December decision, the President stated U.S. appreciation for the advocacy of restraint by some OPEC members, particularly Saudi Arabia and the United Arab Emirates.

The text of President's Dec. 17 statement follows:

"We deeply regret OPEC's decision to raise, once again, the price of oil. We very much appreciate the efforts of those OPEC members, particularly Saudi Arabia and the United Arab Emirates, whose sense of international responsibility and concern for the adverse impact of an oil price increase on the world economy led them to advocate restraint and to refuse to go along with the increase proposed by the others. Unfortunately, however, the majority of OPEC members, citing artificial economic justifications and ignoring the destructive consequences of their actions, chose to take a course which can only be termed irresponsible.

"The United States has joined with many other nations in an international effort to improve the quality and degree of global cooperation. The prosperous world which we and other nations seek, in the interest of developed and developing nations alike, depends on a sense of shared responsibility. This requires that nations avoid actions which harm one another. It requires that that every country understand that, in an interdependent world, shortsighted actions, however seemingly attractive in the near-term, can have long-term consequences detrimental to its prosperity and to that of all other countries. It requires a common commitment to the well-being of all peoples, and special sensitivity to the plight of the world's poorest societies. The decision of the OPEC majority clearly does not meet such standards of international responsibility.

"For our part this latest price increase can only serve as a sharp reminder for all Americans of the need to take urgent action to strengthen our conservation efforts and develop new sources of energy in order to reduce our dependence. And it must serve as a reminder to all oil-consuming nations of the need to work closely together to reduce our reliance on imported oil and our vulnerability to arbitrary OPEC decisions."

COMMERCE, SBA TEAMING TO INTRODUCE SMALL FIRMS INTO EXPORT ACTIVITIES

The Commerce Department and the Small Business Administration are teaming in a new cooperative effort to introduce U.S. small businesses into exporting.

It will involve:

- Identification of overseas trade opportunities by the Commerce Department and notification of these opportunities to small American firms through the SBA.
- Commerce Department training of SBA personnel in international trade activities so that SBA can properly evaluate small business capabilities and needs.
- Commerce-SBA collaboration in expediting applications for SBA loans to companies that want to export.
- A series of jointly sponsored SBA-Commerce conferences that will explain the SBA business loan program to encourage exports and the export promotion programs of Commerce's Domestic and International Business Administration.
- Collaboration in conducting sessions on international trade at SBA-sponsored management courses in schools.
- Commerce's preparation of publications, audio-visual aids and other promotional materials to help SBA field offices generate interest in exporting in the small business community.
- Individual counseling of small business owners by SBA to stimulate exports.
- Collaboration in publicizing Commerce export promotion programs through SBA field offices.

Details about the Commerce and SBA programs may be obtained from the Bureau of International Commerce, Room 2322, U.S. Department of Commerce, Washington D.C. 20230, phone 202-377-4577, or the Small Business Administration, 1441 L Street, NW., Washington, D.C. 20005, phone 202-633-6448.

New TOP Bulletin

A new activity of the Commerce Department Trade Opportunities Program, the "TOP Bulletin—An Advisory Service," has been established to assist U.S. exporters and export service organizations.

The Bulletin provides a weekly compilation and index of all trade opportunities processed in the Commerce program. It is offered on an annual subscription basis, at a fee of $100 per year, through the Commerce District Offices.

The Bulletin supplements, rather than replaces, the TOP Notice Service, under which subscribers receive trade opportunities in the specific industrial, commodity or service field of direct interest to them. It is aimed at manufacturers with a wide range of goods or services that desire a consolidated export trade lead source; at export management firms that handle a large variety of products or services; at banks, port authorities, chambers of commerce and other trade development agencies interested in international business information, and at export service organizations, such as shippers, freight forwarders, and engineering and consulting firms.

The trade opportunities generated by Commercial Officers at U.S. Embassies and Consulates around the world will thus reach U.S. enterprises in four ways: through the TOP Notice Service, in the pages of *Commerce America* and *Commerce Business Daily*, and in the TOP Bulletin.

Multilateral Trade Negotiations

This article is another in a series of progress reports on the multilateral trade negotiations, prepared by the Commerce Department Office of Int'l Trade Policy.

GENEVA

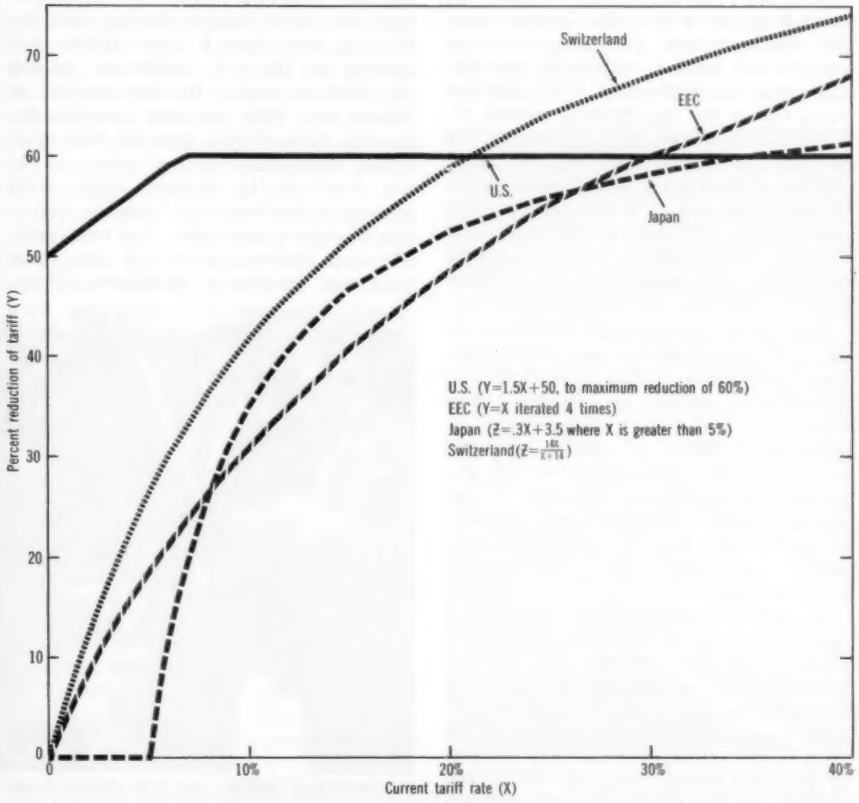
The MTN Tariffs Group, meeting Dec. 15 on the issue of special and differential treatment for the world's less developed countries (LDCs), focused on the measures the developed, or industrialized, countries would be willing to take on tariff items of special export interest to the LDCs.

The most common offer on such items was to propose Most-Favored-Nation (MFN) reductions greater than those called for in the general tariff-cutting formula, or to propose to accelerate the schedule for implementing such reductions. Also, many developed nations promised special efforts to avoid taking exceptions on items of priority export interest to the LDCs. The United States was among the nations indicating willingness to give such special and differential treatment to the LCDs, in the interest of liberalization of world trade.

Other nations, including the European Community, Canada and Japan, said they would consider, on a product-by-product basis, taking some special measures on tariff items included in their generalized systems of preference (GSP), items on which LDCs now enjoy preferential margins. Among these measures, not all of which were mentioned by all the above countries, are: to except some GSP items from formula (MFN) reductions, making reductions less than those called for by the formula, or implementing MFN reductions on GSP items on a decelerated schedule.

The U.S. does not favor such measures, taking the position that they do not further liberalize world trade, and maintaining that the GSP is an autonomous, unilateral undertaking not appropriate for treatment in the MTN.

The Group did not reach agreement on the special and differential measures for the LDCs, and will meet in March to take up the issue again, along with the overall tariff reduction formula, and procedures for negotiating exceptions to formula reductions.



TARIFF REDUCTION FORMULAS COMPARED—*The graph plots the percentage reductions that would be made on current duty levels by four major proposals that have been offered to the MTN Tariffs Group in the Multilateral Trade Negotiations.*

The MTN Framework Improvement Group, established in November, met Dec. 14 on organizational matters and will begin its substantive program at a meeting during the week of Feb. 21.

The MTN Group on Agriculture met Dec. 20 for the first time in over a year and agreed on procedures for bilateral consultations on agricultural products other than those covered by the three commodity subgroups (grains, meat, and dairy). The group also agreed to review in early 1977 the applicability of the draft standards code to the field of agricultural products.

The agreements reached on procedures will allow the members to move toward bilateral and plurilateral consultations on a wide range of agricultural trade problems in 1977. Once the restrictive measures have been identified and countries have consulted, the group can consider the best means of achieving trade liberalization in agriculture.

BRUSSELS, TOKYO

The United States held **bilateral discussions on steel** with the European Community in Brussels Dec. 2-3 and with Japan in Tokyo Dec. 6-7. The need for these discussions emerged as a result of the semiannual U.S.-EC bilateral consultations held Oct. 21-22, where it became clear that there were a number of significant steel trade issues of international interest. The agenda for the steel consultations included discussion of recent and prospective steel developments, EC restrictive arrangements with Japan, U.S. specialty steel quotas, and possible future actions affecting steel. The discussions with the EC also covered the Simonet Plan, which revises the EC's internal procedures for handling crisis situations and was scheduled to be implemented on Jan. 1.

SHIPPER RESPONSE ASKED ON CENSUS TRADE SURVEY

Shippers included in a Census Bureau survey of international commerce launched last September are being urged to complete and return the export and import questionnaires, designated as Forms TS-501 and TS-502.

Collection and publication of this data is of growing importance because of increased use of containerization, and shipper needs for information on door-to-door movement of commodities with through bills of lading.

Purpose of the survey, similar to one conducted in 1970, is to trace the movement of vessel and air imports and exports throughout the U.S. transport system. Survey data will be linked to data already available on the international movement of goods collected from customs documents.

COMMUNICATING WITH BUYERS—*Exhibitor at computer exhibition, U.S. Trade Center, Frankfurt, demonstrates his equipment to two prospective customers.*

MINI, MICRO COMPUTERS FROM U.S. GENERATE RECORD SALES IN GERMANY

Mini and micro computer equipment and systems provided the focus recently for record crowds of motivated buyers at the U.S. Trade Center, Frankfurt. Immediate sales by the 72 exhibitors, at $13,438,600, topped those of any single event at the 14-year-old Center. Orders expected by new-to-market participants during the next 12 months are estimated at $44.7 million, another record setter (total projection, $78.2 million). A seminar held at nearby America Haus in conjunction with the exhibition reported standing-room-only sessions.

Next to the United States, Germany has traditionally been most receptive to new concepts of computer usage in manufacturing and business operations. Examples of sectors in which computerization is growing rapidly are national and network banking, programming in the process control and materials testing industries, small business storage and retrieval, administration and personnel operations of medium-sized firms, and the Federal and State police departments.

Exhibitors generally agreed that U.S. technology, based on American computer manufacturers' commitment to research and development, would continue in its leadership position over the next five years. Many exhibitors believed that if the expected flow of technological breakthroughs continues to lower unit costs of equipment in the industry, the consumer mass market will be developing by or before 1981.

As for price, three out of four exhibitors were satisfied that the trend in competitiveness of their products in Germany over the next one to three years would be in their favor and that the outlook for growth in the German market was excellent. For many who expressed this opinion, one major assumption was involved—that U.S. inflation rates would not significantly exceed inflation levels within the host market and in other EEC competitor countries. Those exhibitors who were more conservative in their estimate of future trends were concerned about price competition with the well established computer industry in the United Kingdom and, to a lesser extent, with that of France.

The trend toward miniaturization in data processing and the unit price reductions developing within it are having considerable impact on smaller scale enterprises in Germany which need such equipment. Many of these potential buyers attended the exhibition and expressed much interest not only in the displayed mini- and micro-units but also in the newest line of impact printers, hobby computers and programmable hand calculators.

Software packages seem to be well regarded in some German industry, including banking, and the price of the U.S. product is competitive; however, German firms have not yet overcome the data processing manager's tendency to stick with applications he has learned in his own formal training. Thus, the market for software is still small and improvement is slow.

The computer exhibition was the U.S. Frankfurt Trade Center's final show, as operations are being transferred in late January to the new U.S. International Marketing Center in Cologne.

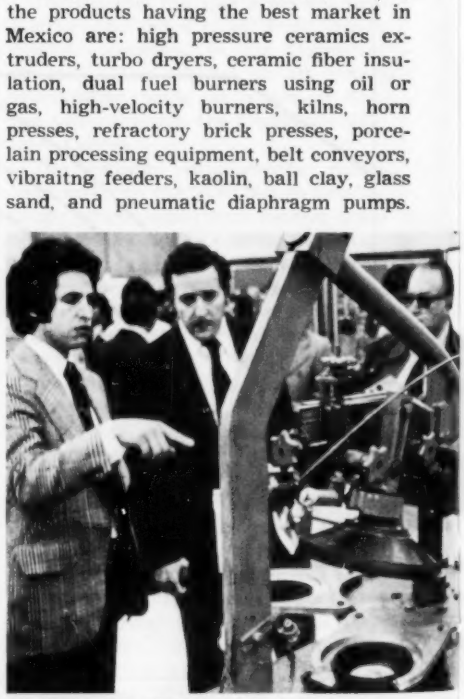
As Mexican Ceramics Exports Gain, Production Equipment Imports Seen Increasing

The Mexican ceramics industry is likely to grow at an average annual rate of 13.5 percent during 1976-80, and equipment imports can be expected to improve as ceramics exports continue to gain. Such exports are now roughly 40 percent of production.

Exhibitors in a recent promotional event for ceramics equipment and technology at the Mexico City U.S. Trade Center expect some $8.8 million worth of orders in the next 12 months as a result of their participation.

Long-run demand for ceramics products remains positive. The recent peso devaluations, pushing up prices substantially, have considerably curtailed equipment imports, however, and it is now economically feasible to manufacture certain pieces locally, but it is unlikely that the full range will be produced in Mexico.

Besides enjoying a reputation as the technological leader in the market, U.S. equipment is reported to be a little less expensive after freight charges than the German and French competition. According to the U.S. exhibitors, among the products having the best market in Mexico are: high pressure ceramics extruders, turbo dryers, ceramic fiber insulation, dual fuel burners using oil or gas, high-velocity burners, kilns, horn presses, refractory brick presses, porcelain processing equipment, belt conveyors, vibraitng feeders, kaolin, ball clay, glass sand, and pneumatic diaphragm pumps.



IN MEXICO CITY—*At U.S. Trade Center's ceramics production equipment exhibition, A. J. Wahl Inc.'s automatic plate molding machine was popular.*

GERMAN ECONOMIC PAUSE NOW AFFECTING IMPORTS; TRADE BALANCE IS SHIFTING

Germany's recovery from the recession which began in the second quarter of 1975 gradually decelerated last year to the point that by the third quarter growth came to a virtual standstill. Not only is the pause much more pronounced than in the United States, but the quarterly growth rates since the beginning of the year also lagged markedly behind those in this country. Recent data and past cyclical patterns suggest a pickup in the fourth quarter, although it was probably not sufficient to bring 1976's real GNP growth up to the widely forecast 6 percent.

Forecasts for this year's real GNP growth range between 3 and 6 percent, according to the U.S. Embassy in Bonn. The more optimistic ones are based on strong performance by the export and investment sectors—both assumptions not altogether free of uncertainty. Official policy concentration on stability seems likely to continue. Tax increases, budget austerity and a slowdown in monetary growth are presently envisaged for 1977.

Over the course of the past six months inflation has moderated considerably and is currently below 4 percent. Food price stability has played a heavy role in this development. For this year the economic research institutes see a 4.5 percent rise in prices, although there are those, e.g., the Bundesbank, who feel the goal should be set under 4 percent.

Improvement in the unemployment situation was very slow last year; in October the (seasonally adjusted) jobless rate was 4.6 percent as compared with 4.7 percent in January. Nonseasonally adjusted unemployment could rise to 1.1 to 1.2 million early this year.

In the first nine months of 1976 the Federal Republic's imports (c.i.f.) from the United States were 21.2 percent above the same period in 1975—about in line with overall import growth. It is a striking improvement over the recession-influenced 1.8 percent growth rate in imports from the United States registered in 1975. Projecting the data out, it would appear that such imports will be around 17 billion deutschemarks, or $6.8 billion in 1976. The U.S. share of the German import market continued at about 7.7 percent last year.

However startling the 1976 annual gain may be, analysis of the seasonally adjusted volume data points to a decided deceleration in the overall real import rate as the year progressed. At the beginning of the year, these data reflected a 28 percent annual rate of growth, in the spring this had slowed to 16 percent, and by summer it was 12 percent. The slowdown in stockbuilding and economic growth and consequent dampening of import demand undoubtedly explains this development.

There are some predictions that this year's import volume will be 7 percent above last year's level. In current prices this would represent about 11 percent import growth. Providing the United States maintains its market share, imports from America should experience a like aggregate gain. While substantial, it would still be only about one-half the growth rate in 1976. Additional effort will be needed if the momentum of U.S. export growth is to be maintained.

Swinging trade balance

While, as mentioned, German imports from the United States in the first nine months grew at a healthy 21.2 percent rate, German exports to the United States rose by only 14.5 percent. As a result, the bilateral trade balance was favorable to the United States by DM 2 billion, according to German statistical sources. By way of comparison, in all of 1975 the balance in our favor was DM 1.1 billion. Both balances reverse the long-standing situation of Germany being at an advantage in the bilateral trade (by DM 3.4 billion in 1974).

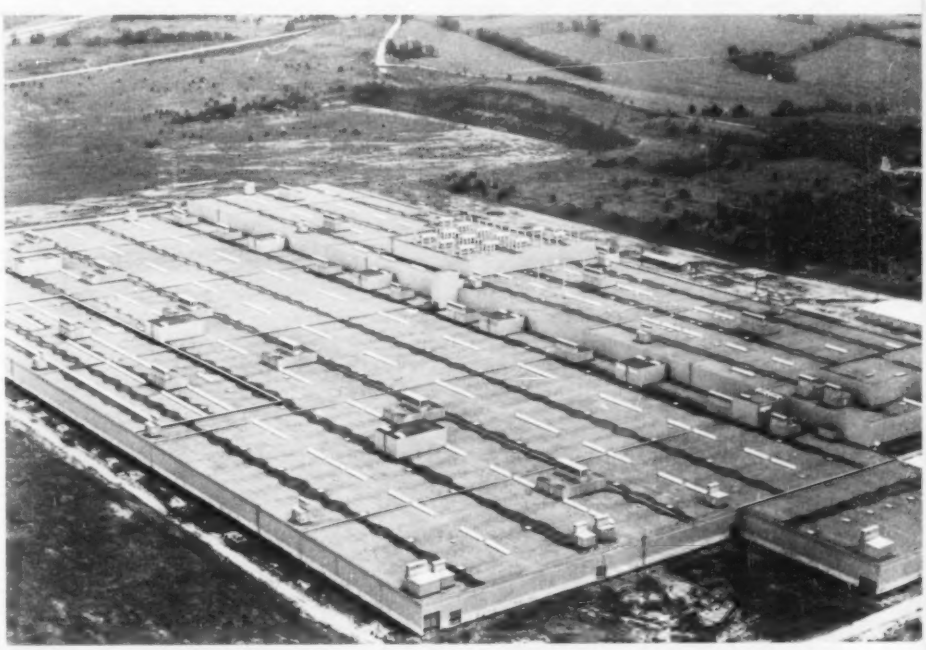
A trend that seems to have been developing over the year so far, however, has been a swing back toward the old pattern. On a quarterly basis, the bilateral trade balance favoring the United States has been slowly eroding as follows: first quarter, DM 1,006 million; second quarter, DM 659 million; third quarter, DM 355 million. In the month of September, it swung over the line to Germany's favor by DM 100 million. Whether this trend will continue, given the approximate 5 percent appreciation of the deutschemark vis-a-vis the dollar that took place between the third and fourth quarters, remains to be seen.

Leading investment role

According to the Federal Republic's Economics Ministry, the United States is the country with by far the largest direct investment in Germany. It accounted for DM 17.6 billion, or 40 percent of the total foreign direct investment in the country as of mid-1976. (In 1973 this figure was 43 percent.) Switzerland and the Netherlands follow, with 15 and 13 percent shares, respectively. The Arab and Middle Eastern oil-producing countries have a 1 percent share.

The other side of the coin—German direct investment abroad—once more has the United States in the lead. As of June 30, of the DM 44.7-billion total of such investment, the United States had DM 4.9 billion, or 11 percent. France, Switzerland and Belgium/Luxembourg follow, each with 10 percent shares.

It is interesting to note that total



TOOLING UP FOR VOLKSWAGENS—*This 2.3 million-square foot plant near New Stanton, Pa., will be the site for Volkswagen's first U.S. automobile assembly plant. A new highway and rail spur are being built to serve the former Chrysler Corp. plant, which is expected to begin operations in late 1977. The plant is located 38 miles southeast of Pittsburgh. About 2,000 persons will be employed initially.*

foreign investment growth in Germany has been declining in recent years. While in 1973 there was an increase of DM 6.1 billion in such investment, in 1974 it rose by the lesser amount of DM 4.4 billion, and in 1975 the increase dropped to DM 2.5 billion. However, in 1976's first half, it was DM 1.9 billion, so that this declining growth trend may be reversing. Of this latter amount, the share coming from the United States was 22 percent, or about half what its cumulative share represents, signalling a relative slowdown of U.S. direct investor interest in the German market.

German direct investment abroad has been more or less stable at DM 5 billion per year for the last three years, a pace maintained in 1976's first half. The share going to the United States in the first half, though, was 24 percent. This represents a decided pickup in German investor interest in the United States, since it is more than double the cumulative share the United States has of such investment.

New investment trend

Even though these statistics show that the U.S. has 3.5 times as much direct investment in the Federal Republic as vice versa, they also show that the current trend is in the reverse direction. In the first half of last year Germany made direct investments worth DM 656 million in the United States, as compared to DM 459 million made by U.S. direct investors in Germany. The explanations for this trend change are not simple, but the effects of the exchange rate changes have probably contributed.

Computers and peripheral equipment have the highest potential for incremental U.S. export sales to Germany over the next three years, according to recent Embassy research. Best sales prospects for U.S. products exist for all types of "intelligent" terminals and certain types of high-performance peripherals, such as fast printers, OCR equipment, and computerized microfilm stations (COM/CIM). Any type of newly developed EDP peripheral equipment can be expected to find a good market in Germany—provided that it is really an improvement over what is presently available. Related product categories for combined promotion could be communications equipment for data teleprocessing and telecopying.

U.S. electronics industry production and test equipment ranked second on the best prospect listing developed by the Embassy. Although European industry has been working hard to bridge the technological gap, U.S. industry continues to have a clear lead. Products specifically identified within this area were IC and PC production equipment as well as production equipment and instruments for microelectronics. Automated copying, soldering, and welding equipment were also cited as having good sales prospects.

A large potential for incremental U.S. export sales to Germany exists also in the consumer goods area. German foreign trade statistics for the first nine months of last year reveal remarkable growth rates for a variety of U.S. consumer goods imported into Germany. More than half of all trade opportunities reported by the Consulates in Germany in recent months are for consumer goods. The U.S. participation at the German trade fair for sporting goods in September in Cologne was quite successful, and promises increased U.S. sales of sporting goods to Germany.

AUSTRIAN RECOVERY, PLUS DOLLAR/SCHILLING RATE, TURNS BUYERS TOWARD U.S.

The Austrian economy is recovering from the recession of 1975, and real economic growth in 1976 was anticipated to be 4 percent, with a 5 percent growth rate projected for 1977. GNP last year probably reached about $40 billion, and total imports about $10 billion, adds James H. Williamson, Assistant Commercial Attache at the U.S. Embassy in Vienna.

Real growth in imports during 1977 has been projected at 7.5 percent by the semi-official Austrian Institute for Economic Research. Austrian imports from the United States exceeded a quarter billion dollars in 1975, and the potential for growth remains good, with U.S. deliveries to Austria in the first half of 1976 up almost 12 percent from the same period in 1975. With most Austrian economic indicators pointing to continued recovery from the recession which dampened 1975 imports, American suppliers, aided by a favorable dollar-schilling exchange rate, are in good position to build up their share in the Austrian import market.

Where interest is highest

While general economic trends are of importance in assessing overall market potential, the individual U.S. exporter also needs detailed market research. Such research recently performed by the U.S. Embassy shows several general U.S. product categories to be of higher than normal interest to Austrian importers. These categories include production and test equipment, and components for the electronic industry; mini-computers and small business computers; health care and biomedical equipment; industrial and scientific laboratory instruments; and earthmoving and road construction equipment. Each product category identified is characterized by the facts that a) the present U.S. market share substantially exceeds the overall U.S. market share in Austria, and b) significant numbers of inquiries from Austrian firms seeking representations in these product categories have been received in the last year.

A brief sketch of the market for each of these product categories follows.

The Austrian **electronics industry** is expected to grow faster than the economy. The industry benefits from governmental support aimed at keeping its technology up-to-date. U.S. products have a high reputation for quality and can offer competitive prices aided by low or non-existent Austrian tariffs on many high technology machinery items.

Computerization is well advanced in the banking and insurance sectors, but there remains a large market for **mini-computers and small business computers** among the thousands of smaller firms which have not yet adopted modern business machines. Growth in the Austrian computer market is illustrated by the fact that computer rental expenditures grew 6 percent over the last 2 years to $283 per million dollars sales in a time of generally depressed business activity. This growth is expected to accelerate. U.S. producers enjoy a fine reputation among Austrian purchasers and are in a position to improve further their share of the Austrian market.

The Austrian Federal Ministry of Public Health and Environmental Protection plans extensive renovation of the country's health care system. These improvements include construction projects as well as renovation and reorganization of existing facilities and should expand an already enthusiastic market for U.S.-origin **health care and biomedical equipment.** Even without governmental stimulation, consumption of certain categories of health care products has doubled in the last few years. Austrian willingness to buy U.S. products in this sector is shown by U.S. market share growth in this increasing market.

Austria produces a wide variety of relatively low technology **laboratory and scientific instruments** but relies on imports for high technology items. The United States, as the leading producer of such products, has a significant share. Expenditures for research which form the basis of this market will be supported over the next few years by increased government spending to modernize domestic industries.

Imports account for the bulk of consumption of **road construction and earthmoving equipment.** In contrast to other sectors of the construction industry which suffered in the recession, road-building activity has remained steady or

improved, since it is a major recipient of governmental economic assistance. Competition from other supplier countries is strong, but technologically advanced, high quality U.S. earthmoving and road construction equipment should have favorable prospects in the Austrian market.

In addition to market research, frequent contacts between U.S. Embassy personnel and Austrian business provides valuable leads.

During recent "Sprechtage" in Graz and Linz, the Commercial Attache met with several leading Austrian firms and noted a keen interest in U.S. products. In Graz, the commercial and industrial center of Southeastern Austria, strong interest was apparent in American consumer goods, as well as in technically advanced machinery of various types, ranging from laser equipment for the construction industry to remote control garage door openers. The managers of a major importing house expressed interest in U.S. hardware, garden tools, and household appliances, and stated their intention to visit U.S. trade shows featuring consumer goods. A large Austrian manufacturing firm asked for information on suppliers of good quality sports clothing and other items which could be sold through the firm's well established European distribution channels.

Wanted: joint ventures, licensing

In Linz, the center of Austrian industry, there was more emphasis on joint ventures and licensing arrangements. For example, one manufacturer was looking for a joint venture partner for manufacturing ladies' boots in the United States, while another firm sought a manufacturing license for paper products to be produced in Austria.

To sum up, Austria offers U.S. exporters a diverse and promising market. To open this market the potential U.S. exporter should appoint an Austrian agent and offer the same support the agent receives, say, from West German suppliers. Austrian business officials, like others, need realistic price quotations which include transportation costs. The most desirable form is c.i.f. European port, because the buyer can then readily determine actual costs. As the Austrian buyer is price conscious, he dislikes purchasing through a European general agent or acting as sub-agent for a principal agent in another country and paying a markup value to him. He prefers to buy direct from United States suppliers.

Keeping these tips in mind, and with the support of the Commerce Department and U.S. Embassy in Vienna, Williamson believes that U.S. business has good prospects for developing the Austrian market.

WAGE RESTRAINT IS KEY TO IRISH OUTLOOK IN 1977

There is continuing weakness in the Irish economy and there are no immediate prospects for a strong recovery, reports the U.S. Embassy in Dublin.

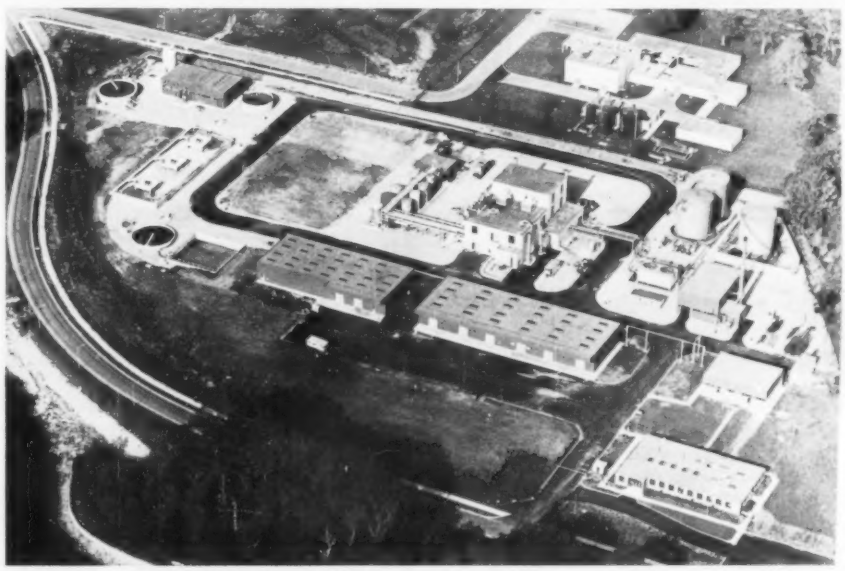
The rate of inflation in 1976 was expected to reach 18 percent, which is higher than that anticipated in projections made earlier in the year. Unemployment stands at approximately 11 percent. The balance of payments gap has widened and was expected to total 163 million pounds last year. Government foreign debt has increased and has nearly hit the one billion-pound mark. As a result of unexpectedly high industrial exports, GNP growth for 1976 in real terms was expected to reach 3-4 percent. There was a small increase in net investment last year but industrial production may be leveling off following a sharp increase at the beginning of the year.

Economic development in 1977 will be influenced to a large degree by the outcome of negotiations currently under way for a national pay agreement. Economic commentators agree that wage restraint is essential to restore competitiveness and to instill confidence in the economy. The OECD in its review of the Irish economy has said unequivocally that if present trends persist and the rise of wage rates is not brought to a halt in 1977 it could further damage confidence, increase uncertainty and render even more difficult the financial position of the private sector.

In these circumstances GNP growth would probably be small and unemployment would increase, since continuing high inflation and a consequent rise in the budget deficit would further restrict the ability of government to take action to alleviate unemployment. On the other hand, if income restraint is accepted, the OECD believes prospects would be much brighter. Whatever the outcome, inflationary pressures will continue through most of 1977, and the EEC Commission has forecast a 13 percent rise in the cost of living this coming year.

Despite Ireland's economic problems, imports increased substantially during the year. The benefits that might be derived from this by U.S. exporters, however, may have been eroded by the continuing depreciation of the pound vis-a-vis the dollar. Nevertheless, Ireland has a continuing requirement for imported goods and services, and in 1975 the United States increased its share of Irish imports to 7.2 percent, a distinct improvement over the 6.5 percent in 1974. The government is stressing the importance of investment, and this should provide a market for a wide range of U.S. capital goods and services. Also, American firms still find Ireland to be very attractive for investment, resulting in opportunity for the sale of U.S. equipment.

Ireland's investment climate is good. Rising wage costs are disadvantageous, but the Industrial Development Authority offers a wide range of assistance and incentives to firms wishing to invest in Ireland. The incentives include grants, tax exemptions on export profits and assistance in training workers. Foreign investment is not only welcome in Ireland, but the government has a positive policy of attracting investment, particularly in employment-creating industries.



GENERAL MILLS PLANT AT CORK—*General Mills Chemicals, Inc., announced completion during 1976 of this plant to produce specialized organic chemicals for export markets. Badger was responsible for the engineering based on General Mills process know-how, procurement of equipment, and construction supervision.*

BELGIUM'S GOALS IN 1977: RESUMPTION OF GROWTH, CONTROL OVER INFLATION

After a period of strong internal and external demand early in 1976, Belgium's economic recovery stalled in the second half of the year, according to the U.S. Embassy in Brussels.

Key indicators slumped since May-June, export demand softened, and unemployment is again inching upwards. Given these factors, there was probably little economic growth in Belgium in the second half of 1976; the government's real GNP forecast for the year has been revised downward to around 2.5 percent.

Basis for revival hopes

Hope continues for a more solid revival in 1977, based initially on sustained exports in certain sectors, private residential construction, public spending, and a possible pickup in household incomes. The mid-term outlook remains bleak, however, for some of Belgium's most important industries, notably steel.

Generally, business confidence is still limited by the economic pause, high interest rates, and low profits and plant utilization ratios. Investment was off again in real terms last year. In 1977, investment could rise in the form of plant restructuring, but this will have negative effects on the unemployment rate, now at 8.6 percent.

Although easing, inflation continues as Belgium's most pressing economic problem. Consumer prices are rising at an 8.3 percent annual rate, still high relative to many other industrialized countries. The trend is not reflected in current export figures but continues to represent a longer-term danger to Belgian international competitiveness. The government is working to counter it by reducing the national budget deficit and planning for negotiations with labor to continue, at least partially, current controls on incomes and salary increases.

Externally, the balance of payments is running at a slight deficit, due to both cyclical causes and exchange market speculation against the franc. In terms of reserves, this speculation has sharply reduced available foreign currencies, but Belgian authorities believe that they have sufficient resources to stave off any devaluation pressures which might arise this year. Their success in doing so, however, will depend to some extent on whether they can ease internal money conditions in 1977, as well as on the effect of the recent realignment of currencies within the European monetary "snake."

Its economic problems notwithstanding, Belgium is a highly developed industrialized country with a far greater impact on world trade than its physical size and population might suggest. It has long been a strong influence within the European Community and the OECD for a liberal world trading order, an improved system of international payments and practical steps to aid the economies of developing countries. Its progress in regaining a durable growth path internally without inflation will thus have important implications for the future of general U.S.-West European economic relations.

Bilateral trade trends

U.S. trade with the Belgium-Luxembourg Economic Union (BLEU) slackened in the 1975 recession but revived somewhat in the first seven months of 1976. U.S. exports to the BLEU during this period were almost $1.2 billion according to Belgian statistics, a 19 percent increase over the same period in 1975. At the same time, however, BLEU exports to the United States continued to stagnate in 1976 after dropping by 43 percent in current value terms the year before. Belgian steel and machinery shipments to the United States remained at their low 1975 levels; among important Belgian products, only diamond exports showed a substantial rise in cash value of shipments to the United States last year.

As a result, the Union exported only $635 million worth of goods to the United States through July, and its trade deficit with the United States continued to widen. A strong expansion of U.S. import demand in 1977 could redress the situation somewhat; if not, a persistent imbalance could come to shadow U.S.-BLEU trading relations over the longer term.

On an overall basis, U.S. exports to the Union increased last year at about the same rate as BLEU imports generally. As might be expected during a pick-up phase in the business cycle, the initial rise in U.S. exports was principally sustained by large increases in shipments of raw and semi-processed materials, such as minerals, chemicals, and rubber products. By contrast, exports of U.S. machinery and transport equipment remained depressed in the first half of the year. (An over 50 percent jump in U.S. exports of precision instrumentation may indicate a strengthening of U.S. products in that sector, however.)

Depending on the pace of Belgian recovery, U.S. performance in this market could broaden in 1977 at least in relative terms; for one thing, the franc has appreciated an estimated 7 percent against the dollar since last January, enhancing the competitiveness of U.S. goods in Belgium. In any event, the trend of the last

"JOURNEE DE CONTACT" AT LIEGE—*Borrowing on a technique developed by the U.S. Embassy and Consulates in Germany, the U.S. Embassy in Brussels, in cooperation with the Belgian banking firm Societe General de Banque, has organized "journees de contacts" in several Belgian cities. These sessions are designed to generate trade opportunities for U.S. exports among Belgian business representatives who, because of locale, do not have ready and frequent access to the commercial services provided by the Embassy. This system of working with a bank follows the technique used by the U.S. Consulate General in Duesseldorf for its so-called "mini-Sprechtage." At this meeting in the Liege Chamber of Commerce headquarters, U.S. officials explain to Belgian business participants the commercial services of the Embassy, with emphasis on the Trade Opportunity Program.*

three years has been for U.S. exports to increase faster than total BLEU imports. U.S. trade statistics also show the BLEU as a remarkably consistent market for U.S. products, taking a steady 2.3 percent of total U.S. exports every year from 1970 through 1975.

Assuming that Belgian economic activity strengthens in 1977, U.S. exporters should find trade opportunities in a number of areas. The market for capital goods will probably remain generally soft for at least six more months, but demand is already growing for many types of labor-saving machinery. Government public works programs are continuing at a relatively high level, with particular stress in the sectors of public health and educational infrastructure. The summer drought created new opportunities for U.S. exporters of soybeans, feedgrains, and certain vegetables and pulses, notably potatoes. Other markets which appear promising over the next 18 months are those for avionics, metalworking and finishing equipment, laboratory and pollution control equipment, some building supplies, business equipment, and electronic components.

A predicted increase in household disposable incomes in 1977 could also benefit U.S. suppliers of consumer goods, particularly in durables. Such exporters should find their goods very price competitive in Belgium, if their products can be adapted to European tastes and requirements where necessary.

Advantages for investors

In terms of investment, Belgium remains a country with substantial advantages, including a favored location vis-a-vis major European markets, excellent infrastructure and transport facilities, as well as a productive labor force. The country's government and population continue to value foreign investment; outside of certain professions, there is virtually no special restriction imposed on foreign-owned business activity.

Nevertheless, new foreign investment in 1976 in Belgium was probably down in real terms from the already low levels of the previous year. The U.S. share appears to be dropping even faster relative to the total and may not have exceeded $50 million last year. This weak pace reflects mainly economic uncertainties throughout Europe, but also stems to some degree from particular factors in Belgium. There has been adverse reaction to fast-rising costs and to labor disputes involving multinational investors. Inflation and the government's budget difficulties have also meant higher business taxes. Both present and potential American investors will thus be watching in 1977 for signs of Belgian progress toward economic expansion and price moderation which could serve to improve the general business climate.

DISCUSSING OPPORTUNITIES IN AFRICA—*"Private Enterprise in World Trade and Investment" was the theme of the 1976 National Foreign Trade Convention in New York. Commerce's Sally K. Miller is shown conferring with registrant on trade and investment opportunities in Nigeria, Zaire and other African nations at one of a series of specially arranged private consultations during the convention.*

Zaire's Shopping List Is Long, But Credit Will Be Necessary

Trade with Zaire will continue to be constrained in 1977 as the country fights its way back to economic health, reports Commercial Officer Ollie B. Ellison from the U.S. Embassy in Kinshasa.

Following a period of high import levels in the early 1970s, which peaked in early 1974, the Zairian economy was struck first with a precipitous fall in the price of copper, its major export, then the blockage of its major export evacuation route as a result of the Angolan war; it experienced a consequent rapid decline in foreign exchange earnings. These events have led to a rapid decrease in the level of imports, which in turn has braked the entire economy.

In an effort to right the economy and continue with its ambitious plans for economic development, the Government of Zaire, in consultation with the International Monetary Fund, has instituted a stabilization program which calls for domestic austerity and sets priorities for expenditure of the country's dwindling foreign exchange supply. Imports which will receive priority under the stabilization program are food products, pharmaceuticals, spare parts and raw materials.

In another positive step toward economic recovery, the government recently announced that many businesses which it took over in 1973 and 1974 are being returned to their former owners, who will be free to retain up to 60 percent ownership and to sell a minimum of 40 percent to Zairian partners of their choice.

The petroleum companies, including two which are U.S.-owned, have been denationalized and are expected to resume operations soon. The return of experienced managers and reemergence of the private sector should generate a modest reinvestment in equipment, raw materials and spare parts, but all within constraints of the availability of foreign exchange.

It is hoped that a satisfactory outcome to Zaire's present debt rescheduling negotiations with both private banks and foreign governments, plus the stabilization program, will improve Zaire's credit rating and encourage suppliers to recommence exports to Zaire. In the meantime, suppliers willing to ship on the basis of unconfirmed 180-day letters of credit, guaranteed by the Bank of Zaire, or suppliers who successfully bid on tenders for development projects underwritten by institutions like the World Bank, can be expected to dominate the market.

Zaire's rich mineral and forest resources and great agricultural potential will support a large market for imports once the present economic problems are overcome. The shopping list both for consumer goods and capital equipment is long, but at present credit is short. It is too early to predict with certainty when an upturn in imports will commence, but U.S. suppliers are advised to pay close attention to further developments.

Italian Surtax Is Reduced

The Italian Government has decided to reduce, ahead of schedule, the surcharge on purchases of foreign currencies from 7 to 3.5 percent.

The surcharge was introduced on Oct. 25 (see *Commerce America*, Nov. 22, page 32), in order to safeguard the lira. The decision to reduce it, effective Dec. 27, was adopted because of improvement in the currency exchange market for the lira. Successive reductions of half a point each are scheduled periodically until the surcharge is terminated Feb. 18.

Calendar For World Traders

Jan. 4—New York—FCIB Roundtable Conference on International Finance, Credit, Collection and Exchange Problems, Summit Hotel.

Jan. 6—New York—International Industrial Marketing Club meeting, Chemist Club. Walter H. Diamond will advise How to Plan and Protect Your Important Markets Against Currency Exchange Fluctuations.

Jan. 6—Cleveland—World Trade Assn. luncheon meeting, Mid-Day Club. Vicky Eicher of Commerce's Office of International Marketing will present Practical Information on Selling in Venezuela. Reservations: 216-621-3300.

Jan. 6—Memphis—Mid-South Exporter's Roundtable dinner meeting, Monte's.

Jan. 11—Milwaukee — Ocean Shipping and Packing Workshop, Federal Bldg. Sponsors: Small Business Administration, Milwaukee District Office.

Jan. 11—Nashville—Kentuckiana World Commerce Council meeting, Holiday Inn Brownsboro Northeast.

Jan. 11—Nashville — Middle Tennessee World Trade Council meeting.

Jan. 11—New York—Seminar on Potentials of Overseas Markets, Adelphi Univ. For information: 516-294-8700, ext. 7660.

Jan. 12—Dallas — International Trade Assn. of Dallas meeting, World Trade Center. Speaker: Gerald O'Brien, executive director of American Importers' Assn.

Jan. 12—New York—FCIB Book Exporters Credit Group luncheon meeting, Summit Hotel.

Jan. 12 — New York — American-Arab Assn. meeting. Peter Hale, Director of Commerce Action Group for the Near East, will discuss doing business in the area.

Jan. 13—Louisville—International Credit and Finance Assn. meeting, Rodeway Inn.

Jan. 13—Columbia, S.C.—Midlands Trade Club meeting, Carolina Inn. Theme: Expanding Your International Trade Horizons. Reservations: 803-758-3531.

Jan. 13—New York—Overseas Automotive Club meeting, Summit Hotel.

Jan. 17—Washington, D.C.—Federal Bar Assn. luncheon meeting, National Lawyers Club. John T. Smith II. General Counsel, Department of Commerce, will discuss Bribery and Boycotts: Prospects for New Extraterritorial Legislation.

Jan. 17-19—New York—World Trade Institute seminar on Chartering for International Shipment.

Jan. 17-19—Ann Arbor—Seminar on Managing Financial Operations for International Business. Sponsor: University of Michigan's Graduate School of Business Administration, 313-763-1387.

Jan. 18—South Bend—Michiana World Trade Club seminar. Jack Hearn of Commerce Action Group for the Near East will discuss Impact of Arab Boycott.

Jan. 18—Memphis—World Trade Club meeting, Southwestern University.

Jan. 18-19—New York—American Management Associations seminar on International Business Negotiations.

Jan. 19—Newark, N.J.—Export matchmaking conference pairing small manufacturers with highly qualified export specialists, Newark International Airport. Sponsors: Commerce Newark District Office, State Chamber of Commerce, Port Authority of New York/New Jersey, State of New Jersey, District Export Council. For information: 201-645-6214.

Jan. 19—Greenville, S.C. — Greenville-Spartanburg International Trade Club meeting, Textile Hall. For reservations: 803-233-2564.

Jan. 20—New York—American Management Associations seminar: China After Mao. Chairman: Eugene A. Theroux, Partner, Baker & MacKenzie. Speakers include William W. Clarke, Director, PRC Affairs, U.S. Department of Commerce, and Christopher H. Phillips, President, National Council for U.S.-China Trade.

Jan. 20—New York—FCIB Drug, Chemical & Food Export Club luncheon meeting, Summit Hotel.

Jan. 20—Portland, Ore.—Oregon Assn. of Credit Management seminar. Commerce's Vincent Travaglini will discuss International Credit.

Jan. 22-Feb. 12—Kent, Ohio—Four Saturday seminars on the Basics of International Business: Finance and Marketing, Kent State University. Sponsored by the Kent State University College and Graduate School of Business Administration, 216-672-2091.

Jan. 23-25—Rome—FCIB International Roundtable Conference, Cavalieri Hilton.

INTERNATIONAL BUSINESS REPORTS

Intertrade Journal: The Journal of International Trade., Published bimonthly at Dallas World Trade Center. $12 for 12 issues, single copy $1.50.

New industry trade journal is edited exclusively for international business officials. Publishers report aim is to provide timely information, current business trends and fresh ideas as a means of helping the reader further his company's growth and broaden his own professional horizons.

Examples of articles published in the first two issues include: Drawback as a Marketing Tool; Day of the Concorde; Managing the Risk in Export Sales; Practical Considerations of Middle East Service Agreements; Assessing Your International Banker's Performance; GSP—"Go Slowly Please"; and analyses of opportunities for U.S. business in Iraq and Mexico. Various regular departments of the magazine report news from Commerce and Agriculture and developments in international finance and law, as well as tips for travelers.

Write: Intertrade Journal, 103 World Trade Center, P.O. Box 58800, Dallas, Texas 75258.

East-West Trade Financing

A handbook on financing East-West trade has just been published by the U.S. Department of Commerce. The 165-page **East-West Trade Financing: An Introductory Guide**, prepared by the Department's Bureau of East-West Trade, deals with general practices and sources of funds most commonly used in financing trade with the socialist countries of Eastern Europe, the USSR and the People's Republic of China.

The guide discusses the principal types of financial institutions active in East-West trade from the viewpoint of U.S. business. Subjects include the programs and services of Western commercial banks; government-supported export credit, insurance and guarantee systems in the United States and selected foreign countries; and financing instruments and procedures.

This publication is available at $1.55 a copy from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or through Commerce District Offices.

Worldwide Business Opportunities

International trade specialists in the Department of Commerce and Foreign Service Officers in the U.S. Embassies and Consulates around the world are continually developing specific commercial opportunities through which American companies can find buyers, agents, partners or investors abroad. One of the major means for communicating these opportunities promptly and accurately to the U.S. business community is through the columns of this magazine.

The section that follows presents details about upcoming trade exhibits and trade missions, licensing and joint venture proposals, opportunities to sell to foreign enterprises, visiting buyers, and details on major construction and expansion projects.

U.S. Promotions Abroad

For more facts on these and other U.S. exhibitions write: Director, Office of International Marketing, Rm. 4015, U.S. Department of Commerce, Washington, D.C. 20230. For trade missions: Rm. 6051, U.S. Department of Commerce, Washington, D.C. 20230.

Poultry Equipment Mini-Exhibit/Seminar. U.S. Commercial Office, Moscow. Feb. 21-25. The USSR's 1976-80 Five-Year Plan calls for a 100 percent increase in poultry production to be achieved by more mechanization and introduction of progressive techniques. New mechanized poultry farms and factories are planned and existing poulty farms are to be rebuilt using new machinery and technology that must be imported. Call Bob Bradshaw, 202-377-5163.

Agricultural Machinery Catalog Exhibit. Morocco, Tunisia, Libyan Arab Republic. Feb. 23-March 3. Agriculture is the main economic activity in Morocco and Tunisia, employing 70 and 60 percent of the population, respectively. Libya has placed highest priority on the reduction and eventual elimination of food imports, for which it is now almost totally dependent. The primary interest of all three countries is in irrigation and land reclamation. All three have earmarked large sections of their development budgets for agricultural development. None of these countries produces much agricultural machinery, and this, combined with their emphasis on agricultural development, should make them attractive markets for agricultural machinery. Call Carol Swope, 202-377-3973.

Casual Sportswear Exhibition—"Clothing USA." U.S. Trade Center, Milan. Feb. 25-28. Great sales are in store for American sportswear in Italy! You are no doubt aware of the Italian demand for American-manufactured casual apparel and have probably already done some business there. To increase your exposure and export sales join other leading manufacturers of casual sportswear apparel in this show. Call Marcia Griffin, 202-377-4509.

Tropical Food Product Processing and Packaging Specialized Trade Mission. Kenya, Cameroon, Ivory Coast. March. Kenya, Cameroon and Ivory Coast are characterized by diverse climatic and topographic conditions, high potential for producing a variety of food crops, and marked similarity in tropical food products grown. The governments of all three countries place high priority on expansion of agricultural production and development of food processing and packaging as major sources of foreign exchange earnings. Local manufacture of processing and packaging equipment is virtually non-existent. Government policy in all three countries provides a most receptive climate for foreign equipment and service suppliers and foreign investors. Bertil Renborg, 202-377-4511.

Computer Equipment Trade Mission to Belgium, Netherlands and Luxembourg. March 1-11. Will focus on computer applications for business efficiency and will promote such equipment as minicomputers, on-line point of sale systems, stock control and distribution systems, input devices for electronic computers such as optical character recognition (OCR), high speed printers, programmable terminals with local mass storage, and bank and financial terminals. Will also include computer programming and other software services. The U.S. share of computer imports into the Benelux countries is currently 84 percent for minicomputers, 23 percent for small, medium and large computers, and 23 percent for peripheral equipment. William Vitous, 202-377-3742.

Motor Vehicle Maintenance Equipment, Replacement Parts, and Supplies Catalog Exhibit. Nigeria, Zaire and Zambia. March 9-22. As a result of Nigeria's oil revenues the government has devised a five-year $50 billion development plan to cover all sectors of the economy and raise the national standard of living. A substantial part of the plan will be devoted to maintaining and expanding infrastructure ($7 billion for highway construction alone). Nigeria is still wholly dependent on imports to satisfy motor vehicle maintenance equipment needs. Couple the Nigerian demand for imports with the surge in motor vehicle assembly plants and there will be strong demand for maintenance equipment and parts for the foreseeable future. Zambia is a landlocked country and thus has to rely heavily on land transport systems to move copper to foreign ports. Zaire has been actively seeking direct foreign investment to enable it to grow. Foreign aid has been directed towards the agricultural and transportation sectors. 202-377-3973.

Industrial Instrumentation. Leipzig Spring Fair, German Democratic Republic. March 13-20. The second U.S.-sponsored exhibition at Leipzig will feature industrial instrumentation primarily applicable to the machine tool and processing machinery construction industry, the chemical industry, and the electrical engineering industry. Emphasis on these sectors is based on a realignment of economic policy goals calling for reinforcement of the raw materials base, an increase in and improvement of consumer goods to the public, and a production increase in the export sector. Buyers and trade officials from throughout Eastern Europe and the Soviet Union see this as their opportunity to inspect western goods and make purchasing decisions. Bob Bradshaw, 202-377-5163.

"PRINTEMPS INFORMATIQUE" (Computers and related equipment) Joint Export Establishment Promotion (JEEP). U.S. Trade Center, Paris. March 14-17. Computer firms seeking to establish in the French market have an excellent opportunity to participate in this major annual computer exhibition, offered in conjunction with a "Computer-Aided Business" trade mission to the Benelux countries March 1-11. Peter B. Field, 202-377-3337.

Building Products and Systems, Construction Equipment and Architectural Hardware Exhibition. U.S. Trade Center, Tokyo. March 14-18. In 1974 the Japanese market for these products was $34 billion. The forecast for 1980 is $54 billion. New construction there is strongly influenced by western style and ideas. Private and public construction in 1974 was 2 million units valued at $67.9 billion. The 1980 projection calls for 3.1 million units at $110.1 billion. The Japanese seek advanced design interior and exterior building products of quality, and knowledge of building systems and methods that U.S. manufacturers can supply. Robert Levine, 202-377-4056.

Commercial and Industrial Security Equipment Exhibition. London Trade Center, March 14-18, and Milan Trade Center, March 22-26. Strong and growing demand for this equipment has been identified by recent market research. The combined market for Italy and the United Kingdom amounts to about $350 million, of which about one third represents imported equipment. Products having high sales potential include intrusion alarm devices, security cameras, closed circuit television systems, access control equipment, fire detection alarms, automotive checking systems, anti-shop lifting devices, "bomb sniffers" and many others. Contact Sam Spaulding, 202-377-4508.

Tokyo Anti-Pollution Exhibition, TAPEX '77 Trade Fair, Harumi Pier, Tokyo. March 14-18. Japan's remarkable economic and industrial growth has spawned the worst aspects of high-paced industrial development with all forms of accompanying pollution: air, water, solid waste and noise. Demand for pollution control instrumentation alone will be $390 million by 1980 reflecting an annual growth rate of 15 percent. By the end of 1976, the Ministry of International Trade and Industry estimates, the market for all pollution corrective equipment will top

$3.27 billion. Pollution technology offers opportunities for advanced U.S.-designed corrective equipment and instrumentation. Mara Yachnin, 202-377-5751.

Hotel and Restaurant Equipment/Franchising U.S.A. Stockholm. March 14-18. Promotion is aimed at Sweden, Norway, Denmark and Finland. In Sweden purchases of hotel/restaurant/institutional feeding equipment totaled $45 million in 1975—half by the public sector, 10 percent by employees' cafeterias and the remainder by hotels and restaurants in the private sector. These sales are expected to increase 9 percent annually over the next several years. The concept of franchising has been in the testing phase in Sweden but now appears to be entering the take-off stage. Jim Price, 202-377-2797.

Pumps, Valves and Compressors Catalog Exhibit. Bombay and New Delhi. March 14-24. India's five-year plan calls for an $18 billion industrial development program ($11.1 billion to public sector, $6.9 billion to private/cooperative sector) to maximize current output and create new capacity in certain target industries, including fertilizer/chemical, petroleum exploration and refining, petrochemicals, electric/nuclear power and industrial process equipment. India imported $35 million worth of PVCs during the fiscal year ending March 31. The U.S. share of this market has consistently run at about 33 percent. India's imports of PVCs are projected to total $143 million through March 31, 1979. 202-377-3973.

Technical Sales Seminar on Textile Machinery. Warsaw, Prague, Budapest. March 26-April 8. The East European countries to be visited by this seminar seek to improve the quality of their export textile products. To achieve this goal, they plan to import machinery, primarily in the finishing and non-woven areas. For further information and participation materials contact Gary Roberson, 202-377-3376.

Educational and Training Aids Exhibition. U.S. Trade Center, Sydney. March 28-April 1. Rating remarkably high as an education-conscious nation, Australia's utilization of multi-media learning materials instead of heavy reliance on printed materials has been one of the major developments in education over the past decade. Such educational reforms have produced an exceptionally good market for U.S. audio-visual equipment, technology, and related training aids. End-users include 4 major sectors, i.e., education, government, institutional, industrial and commercial. The total Australian market for audio-visual equipment is estimated at US$150 million annually, whereas the total market for books, periodicals, and other printed matter exceeds US$136 million annually. Recent trends indicating good sales opportunities for U.S. manufacturers in these product categories together with the success of an Audio-Visual Marketing and Training Aids Exhibition held at the Trade Center in 1972 underline the decision to sponsor the current exhibition. Ronald E. McCowen, 202-377-4957.

Scientific, Medical and Industrial Instruments Catalog Exhibit. Brussels. March 30-April 5. Almost all of Belgium's instrument requirements are imported. The market was $21.2 million in 1975 and has been holding at a 10 percent annual growth rate. U.S. exporters are currently enjoying a 12 percent share. This catalog exhibit will be held in conjunction with "Instrurama '77," an international fair which will attract large attendance. This exhibit offers great opportunities for exposure and possible sales for U.S. firms. Call 202-377-3973.

U.S. Mining Equipment Specialized Trade Mission. Turkey/Greece. April. Excellent sales opportunities are projected for U.S. manufacturers and suppliers of mining and mining related equipment in Turkey and Greece. Turkey possesses relatively large mineral resources, rich reserves of boron, chrome, magnesite, antimony, barite and meerschaum. It is expected that sales of mining and related equipment will reach a billion dollars in the next 5 years. The Turkish government mining agencies plan to invest $662.4 million by 1980. Recent Greek Government measures to stimulate the sector include establishment of an Institute of Geological and Mineral Research and a banking consortium to promote $1.5 billion in investment in the next five years, most of which will center in the minerals sector. The private sector in Greece will greatly contribute to the demand for mining equipment, with industry planning to invest nearly $500 million in plant facilities and equipment and $50 million in research and exploration. Geoffrey Walser, 202-377-4511.

Agricultural and Food Processing Equipment. Budapest. April 15-20. Hungary relies on exports of agricultural products and processed foods to earn hard currency. AGROMAS EXPO is an opportunity to meet Hungarian buyers and end-users at a specialized commercial exhibition. Mike Frisby, 202-377-5186.

Electronics Industry Production and Test Equipment; Tandem Exhibitions at U.S. Trade Centers in Stockholm, April 18-21, and London, April 26-29. Market research recently conducted in the countries of Scandinavia (Sweden, Norway, Denmark and Finland) and in the United Kingdom have identified for U.S. producers opportunities in these markets for the sale of U.S. EIPT equipment. For example, in Sweden the product categories which are expected to grow in demand through 1978 include test equipment, which will be in the greatest demand, followed by semi-conductor production equipment with wiring assembly and other interfacing equipment. In the United Kingdom the need to upgrade productive facilities of British electronic component and equipment manufacturers is clearly recognized. Strong interest in the latest state-of-the-art in test and measurement equipment, integrated-circuit production equipment and other component production equipment has been expressed. The United States is a major supplier to these countries. Call William G. Stepp, 202-377-4602.

Hydraulic, Pneumatic and Advanced Fluid Power Systems, Equipment and Components Exhibition. U.S. Trade Center, Tokyo. April 18-22. A seminar will be included. The Japanese recognize superiority of U.S. production. In 1975 the market for both hydraulic and pneumatic power systems was $519.7 million. The market in Japan for hydraulic power systems will grow 10 percent annually for some time, while annual growth for pneumatic power systems will be somewhat less. John Wolf, 202-377-4390.

Automotive Maintenance and Servicing Equipment Exhibit. U.S. Trade Center, Taipei. April 18-22. Taiwan is a promising market for manufacturers of hand and power tools, wheel balancing, front end alignment, brake testing and repair, safety testing equipment, spark plugs, polishes and lacquers, cleaning and car washing machines. Andre Williams, 202-377-3137.

Plastics Production Machinery and Equipment Exhibition. U.S. Trade Center, Mexico City. April 18-23. Mexico's plastics industry is expected to register especially rapid growth over the next few years. Consumption of plastics production machinery has been increasing at almost 15 percent annually, to $35.2 million in 1976. Some 85 percent must be supplied by imports, and the U.S. is the major supplier. In a February 1975 exhibition of this equipment, sales results were $1.5 million off-the-floor and almost $11 million projected. A technical seminar will be included. Mary R. Wiening, 202-377-4463.

Scientific and Industrial Laboratory Instruments Exhibition. U.S. Trade Center, Paris. April 19-22. In 1975, the French market for laboratory instruments amounted to $154 million. Most was supplied by imports, of which the United States accounted for 30 percent. Imports from the U.S. are expected to continue providing about one-third of total imports of a market which in 1980 should be about $240 million. Market research shows a good market for chromatographs, mass spectrometers, oscilloscopes, N.M.R. spectrometers and automatic analyzers. Ned Krause, 202-377-5381.

Business U.S.A.—A Business Equipment Exhibition. Hong Kong. April 25-29. Automation of office procedures and a large demand for modern business equipment in Hong Kong will result in yearly market growth of 32 percent between 1976 and 1979. Imports are projected to reach $54 million by 1979, double the level of 1974. A full range of electronic office machines, copying/duplicating equipment, microfilm equipment, electronic banking machines, letter handling/addressing/mailing machines, paper/check/coin-currency handling machines, and dictation equipment is required for all phases of the business community. Joseph Burke, 202-377-5285.

Printing & Graphic Arts Equipment Exhibition & Seminar. U.S. Regional Trade Center, Singapore. April 25-29. Market research indicates that an exhibition to capitalize on U.S. market share growth potential is warranted. The revaluation of German and Japanese currencies has made U.S. equipment even more attractive. U.S. suppliers now have an excellent opportunity to effectively compete with third country sources. J. Lee Barnes, 202-377-3893.

Industrial Process Controls and Instrumentation Exhibit. Caracas. April 25-30. Venezuela, buoyed by oil income, is attempting to establish a modern industrial economy in the shortest possible time. Industrial process controls will be playing a major part in this development. By 1978 at least 90 percent of process control requirements will still be filled by imports and U.S. manufacturers are expected to hold a 64 percent share of the $32 million market; this is equal to a 16 percent annual growth rate over the $15 million imported in 1975. Hans J. Amrhein, 202-377-2332.

Petrochemical Equipment Trade Mission. UAE, Kuwait, Syria, Greece. April 28-May 9. Will feature equipment and serv-

ices for planning, construction and equipping of petrochemical projects in these three countries. Excellent opportunities exist in Abu Dhabi for firms interested in joint ventures for low density polyethylene, vinyl chloride monomers, and PVC. Good markets exist in Kuwait for all types of equipment used in refineries, LPG processing, aromatics, and ethylene, including such items as process control equipment, pumps, compressors, turbines, vessels, heat exchangers, and major structural items such as fractioning towers. Syria's ambitions center on the proposed construction of a $300-350 million complex, tentatively to be located in north-central Syria near the pipeline from the Syrian old fields. Three major projects in the petrochemical sector are developing in Greece. Contact Wanda Ale, 202-377-3119.

Outdoor, Leisure and Recreation Equipment Exhibition and Seminar. U.S. Trade Center, Sydney. May 2-6. The combination of greater leisure time and new levels of affluence has created a surging interest in outdoor recreation in an already sports-minded continent. Dramatic increases in consumption, up 60 percent in the past two years, have pushed annual retail sales of this equipment over the $146 million mark. U.S. suppliers will find a wide range of products with high sales potential. Lars Lofas, 202-377-3646.

Plastics Production Equipment and Technology Technical Sales Seminar. Poland, Czechoslovakia, Romania. May 5-19. Plastics production in Poland has been increasing rapidly. Poland's overall output of plastics increased from 257,000 metric tons in 1971 to 433,000 in 1975. In the Five-Year Plan (1976-80), investment funds have been earmarked for expanding plastics production facilities. The petrochemical industry holds a leading position among growth industries in Czechoslovakia and will continue to receive high priority during the 1976-80 Five-Year Plan period. Plastics output rose from 245,000 metric tons in 1970 to 428,000 in 1975. The current plan period projects that plastics output will more than double to 940,000 metric tons by 1980. Romania's chemical industry, which already ranks 10th worldwide in output, is to continue its rapid development under the 1976-80 plan. Annual growth has been set at 10-12 percent, somewhat below the 18 percent achieved during the 1971-1975 period, but still the highest growth target for any industrial sector. Romania's plastics output increased from 251,000 metric tons in 1971 to 347,000 in 1975. While production and demand for plastics is growing fast in all sectors of the Polish, Czechoslovakian and Romanian economies, their capacity to manufacture their own specialized processing machines and equipment remains inadequate. Contact Anatole Bilecky, 202-377-2801.

Industrial Assembly Equipment Exhibition. U.S. Trade Center, Paris. May 9-12. In 1975 the French spent $712 million on industrial assembly equipment. Recently conducted market research indicates that French investment in this equipment is expected to jump 30 percent by 1978 to $925 million. Due to rapidly increasing labor costs, there is currently in France a high degree of interest in increased productivity. These factors, combined with the reputation of U.S. industrial assembly equipment as being highly reliable, solid and practical, make this an excellent opportunity for American manufacturers to capture an even larger share of this rapidly growing market. This exhibition will feature a broad range of adhesives, sealants, tapes and application equipment; assembly equipment from fully automatic to feeding devices; riveting, brazing and soldering systems; fasteners and special cold-formed products; portable power and hand tools; programmable controllers; fluid logic and industrial robots; as well as hydraulic and pneumatic equipment and controls. George Ruffner, 202-377-5381.

Food Processing and Packaging Trade Mission. Belgium, Netherlands, Luxembourg. May 9-18. The Dutch market for FPP equipment has grown rapidly in recent years and in 1974 reached $300 million with imports supplying 55 percent. In Belgium, 1974 sales of FPP equipment reached $400 million and it is estimated that they will reach $480 million by 1978. The Luxembourg FPP industry is confined primarily to dairy and meat products, with a substantial brewing industry. In all three countries it is anticipated that U.S. sales will continue to increase at a rate of approximately 10 percent per year. U.S. firms offering innovative and improved technology, prompt deliveries and reliable after-sales service, may successfully compete with European competitors. Contact Robert Vigneault, 202-377-4918.

Food Processing & Packaging (FPP) and Agricultural Machinery & Equipment (AGME). Novi Sad, Yugoslavia. May 13-22. Yugoslav imports of AGME and FPP are forecast at $95 million and $55 million, respectively, for 1977. Government officials have recently designated self-sufficiency and increased export potential in these industries as a top national priority. A full range of processing, forming, filling, sealing, wrapping and packaging equipment is required in FPP; opportunities for sales of AGME include all varieties of planters, spreaders, dryers, loaders, and large combines, planters and harvesters. Contact Kenneth Nichols, 202-377-2762.

Telecommunications Equipment Exhibition. U.S. Trade Center, London. May 16-20. The U.K. import market for communications equipment reached $176.9 million in 1974 and, after a decline in 1975, is expected to grow by 13 percent annually to more than $308 million by 1980. U.S. exports represented 25 percent of 1974 imports. American-made equipment is sought for its high level of sophistication, technological reputation, and uniqueness. U.S. products expected to be in excellent demand during the next 5 years include fibre-optic components and subsystems, advanced telegraph systems, high-density/high-speed random-access memories, complete CCTV systems, solid state high-power HF microwave components, telephone handsets and data multiplexing systems. Thomas L. Thomas, 202-377-3459.

Containerization Technology Exhibit/Seminar. U.S. Commercial Office, Moscow. May 16-20. The USSR's Five-Year Plan for 1976-80 calls for increased use of containers in rail, sea and river transportation. In Leningrad alone, an international container port is to be completed by 1980 with initial handling capacity of two million containers annually and four-million container capacity by 1980. Call Alice Clark, 202-377-2348.

Metalworking Equipment Exhibition, U.S. Trade Center, Taipei. May 16-20. As an integral part of its plan to accelerate the development of capital- and skill-intensive industries, the government is encouraging the importation of sophisticated, precision machine tools and metalworking equipment. Imports of such high priority machinery are expected to exceed $200 million during the 1977-79 period, and U.S. goods are now favored because of their quality, durability, and high performance. Products with best sales potential in Taiwan include grinding, milling, boring, gear cutting, shaping, wire drawing, welding and cutting machines and systems; lathes, planers, punches, hydraulic presses, rolling mills and metrology and other laboratory instrumentation. Contact Dave Horridge, 202-377-2798 or 5545.

High Performance Production Materials. U.S. Trade Center, Stockholm. May 24-27. Special promotion to original equipment manufacturers in Sweden, Norway, Denmark and Finland of selected U.S. materials and milled products of these materials, including ferroalloys, nonferrous metals, nonferrous metal alloys and plastics. The total current market for high performance production materials in the Nordic countries is over $6 billion. The Swedish market alone in 1975 totaled $4 billion, and is expected to expand to $5.7 billion by 1980. Imports supplied 23 percent of the 1975 Swedish market, of which 75 percent was consumed domestically. Of greater interest to U.S. suppliers are export market shares: in 1975 Sweden absorbed 12.9 percent of total U.S. exports of ferrovanadium alloys; 4.5 percent of ferromolybdenum alloys; 12.8 percent of nickel and nickel alloy electroplating anodes; 53.1 percent of molybdenum and molybdenum alloy powders; 9.1 percent of selenium metal; 5.6 percent of wrought cobalt products; 5.0 percent of unwrought tungsten and tungsten waste/scrap; 8.7 percent of synthetic plastic resin laminated tube and rod; and 4.9 percent of synthetic plastic resin metal-clad laminated sheets. William Beiring, 202-377-3276.

Tandem Exhibitions: Health Care Industries, U.S. Trade Center, Paris, May 31-June 2; Interhospital '77, Hanover, Germany, June 7-10. Current research indicates that both France and Germany are major marketing areas for U.S. manufacturers of medical/surgical equipment and products. French and German Government plans call for additional skilled technicians, expanded hospital and clinical facilities and a host of special research programs covering various terminal and incapacitating diseases. Approximately 35 U.S. manufacturers will be given the opportunity to participate in either or both of these important exhibitions. Tandem scheduling makes this "double exposure" possible for a minimal investment of both time and money. Robert B. Wallace, 202-377-3748.

In-Store Promotion. Georges Australia Ltd. Melbourne. June. Will feature U.S. men's, women's and children's wear, accessories, housewares, household linens, cosmetics and stationery. Store contact: Alan M. Forbes, Mng. Dir., Georges Australia Ltd., 162 Collins St., Melbourne. U.S. buying office: Mutual Buying Syndicate, Attn. Camille Galbo, V.P., 11 W. 42

St., New York, N.Y. 10036. Mollie Cleveland, 202-377-4705.

U.S. Pavilion, 32nd Paris Air Show. June 2-12. Internationally long recognized as the key marketplace for the aerospace industry, the biennial Paris Air Show regularly attracts the largest international audience of industry, government and military aerospace buyers. With the total value of U.S. areospace exports for 1976 estimated to exceed $7.6 billion, the aerospace industry continues to be the largest exporter among U.S. manufacturers. In 1975, the 68 exhibitors in the U.S. Pavilion reported $2.84 million in off-the-floor sales and projected an additional $92.8 million in 12-month sales. Beryl D. Cohen, 202-377-4961.

Metals Industry Equipment Exhibit at "TECHNOLOGY-77" International Trade Fair, Tel Aviv. June 8-15. The metalworking industry in Israel is characterized by two factors: rapid growth rate in investments, output and export, and a trend towards more sophistication and diversification. The Israeli market for metalworking and finishing equipment expanded by 92 percent during the 1968-72 period, reaching a total of $66.4 million. In 1975 that market hit $90 million and is expected to exceed $110 million in 1978. Franc D. Manzolillo, 202-377-2991.

U.S. Exhibition at "Electro '77." Moscow. June 9-23. The theme of the U.S. exhibition is electrochemical, electricity producing, transmission, and distribution equipment of all kinds. Equipment for the electrical equipment production industry is needed, including automation equipment, test/measurement instruments, and welding equipment. There will be a small section on nuclear and electrotechnical medical equipment. Automated electrical systems for the mining, metallurgy, machine tool, plastics, pulp and paper and agricultural sectors are needed. Call Judith Robinson or Gary Roberson, 202-377-3376 or 4810.

Catering and Fast Food Handling Equipment Exhibition. U.S. Trade Center, London. June 13-17. Recent market research verifies that certain areas such as the public house, cafe and fast food and catering sectors in the hotel and restaurant industry offer worthwhile potential for U.S. suppliers of microwave ovens, convection ovens, dishwashing equipment, waste disposal equipment, soft icecream makers, cook-freeze equipment, bratt pans, commercial barbecue equipment, and water conditioners. U.S. products, considered to be technically superior, have an inherent advantage. A $93 million market in 1976 is projected to grow to $108 million by 1979. George A. Kemp, 202-377-3422.

Electronics Industry Production and Test Equipment (EIPT) Exhibition and Seminar. U.S. Regional Trade Center, Singapore. June 13-17. Market research recently conducted in Singapore and other regional countries has identified significant sales opportunities in these markets for U.S. manufacturers of EIPT equipment. In Singapore alone, American firms supply over half of a $9.6 million market (1973-1975 annual average), whose growth is projected to reach $13 million by 1979. Singapore's healthy economic base and rapid development in neighboring Southeast Asian countries make the Singapore regional market for EIPT equipment attractive. Call George I. Middleton, 202-377-2471.

Licensing, Investment Abroad

Licensing and investment proposals from foreign firms are listed in these columns. Specific product interests in each proposal are highlighted in bold type to facilitate identification and each proposal is preceded by the appropriate four-digit product number taken from the Standard Industrial Classification (SIC) Manual.

Background information on opportunities abroad and assistance on overseas investments are available from the Overseas Products and Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. "P" numbers should be used when responding to any of the specific proposals listed.

WTDR indicates that a World Traders Data Report containing financial and background information on the foreign firm is available for $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230, or from any Commerce District Office.

OPIC indicates that the country involved is eligible for investment insurance coverage and financing from the Overseas Private Investment Corporation. Information regarding applicable coverage may be obtained from OPIC, Washington, D.C. 20527.

1623—CHILE—Seeks joint venture to supply **transmission lines.** Project includes extension of existing 220-kv. system from Santiago through northern region of Chile and installation of step down power transformers at two substations. Firm has experience in this field, is interested in prequalifying on bid. Marcelo Didier F., Mgr., Didier y Cia. Ltda., Casilla 13584, Santiago. P-761030. OPIC.

2500—NIGERIA — Bendel State seeks U.S. joint venture partner to establish factory producing **furniture.** J. U. Aire, Commissioner for Industry, Trade & Cooperatives, Secretariat, Benin City, Bendel State. P-76987. OPIC.

2600—SAUDI ARABIA—Seeks joint venture to establish **trash recycling plant.** Facility would recycle waste paper into cement bags and other paper products and/or ash for various purposes. Is interested in obtaining detailed specifications from experienced American firms. Saudi company is negotiating contract to set up trash and garbage collection service for Jidda. Mohamed Al-Bakry, Orient House for Agencies & Commerce, P.O. Box 5973, Jidda. Cable, Kendal Green; telex, 40126 SJ, telephone, 54858, Ext. 59. P-76927. OPIC.

2674—ISRAEL (Occupied West Bank)—Seeks license to manufacture **sanitary tissue health products.** Interests include facial and toilet tissues, hankerchiefs, wash and dry type packages, napkins and towels. Firm is largest manufacturer of facial and toilet tissues on West Bank. Desires expand market, excellent reputation. Takbir M. Ohannessian, Mgr., Ohannessian Factory, Industrial Park, P.O. Box 118, Ramallah. Cable, TAKOHAN (Ramallah Via Israel); telephone, 95-2369. P-761048. OPIC.

2819—INDIA—Is interested in joint venture to manufacture **stable bleaching powder.** Proposed facility would have capacity to produce 10,000 m.t. of powder annually. Seeks technology, equipment and raw materials from American participant. Indian company presently makes plastic components, PVC pipes and sanitary fittings. Operates three plants. According to firm, this project will be first of its kind in India. About 75% of production would be available for export. S. B. Phattacharje, Dir., EMCO General Plastic Industries Pvt. Ltd., 235 C.I.T. Road, Calcutta 700315. Cable, Versatile; telex, 0212045; telephone, 242691. P-76928. OPIC.

2875, 2879—GERMANY—Seeks technology to manufacture **garden care chemical products.** Established 1960, firm has 40 employees, manufactures special fertilizers for sale in Germany and EEC. Mrs. Marianne Rhodovi, c/o Gabi-Biochemie Huendersen, Liemerstr. 26, 4902 Bad Salzuflen 1. Telex: 09312172. P-761016.

2992—GERMANY—Interested in cooperating with American companies in **lubricating grease specialties and automotive body polish and cleaners.** This collaboration could include exchange of products, representation, cross licensing, or joint venture for distribution in U.S. American partner should preferably be distributor or manufacturer of standard grade lubricating greases. German firm is well established producer and distributor of lubricating oils, greases and various types of surface protection chemicals. Employs 100, including 18 sales engineers. Lothar Kieber, Deutsche Calypsolgesellschaft, Frigsstr. 20-26, D-4000 Duesseldorf. P-761035.

3079—GERMANY — Seeks licenses to manufacture **plastic automobile accessories and household appliances.** Company has all types of thermoplastics and is interested in articles which use new production techniques such as plastic door locks. Established 1952, firm has 80 employees; annual sales, $3.2 million. Make and distributes plastic injection molded parts up to piece weight of 500 g. Detlev Droege, Sales Mgr., c/o HONASCO-Kunststofftechnik GmbH & Co. KG, Asper Str. 29/Postfach 3424, 4902 Bad Salzuflen 1-Schoetmar. Telex: 03122130. P-761014.

3079—GERMANY—Seeks know-how and licenses for production of following products made of **plastic: sanitary equipment (toilets, bath tubs, etc.); container tanks and vessels; window sashes and other frames made of polyurethane in continuous extrusion process.** Firm also offers technology to U.S. firm and/or joint venture agreements in: multipurpose polyethylene containers from 750 to 10,000 l. capacities, manufactured by blow molding; aluminum reinforced, colored polyurethane window sashes and other frames; chemical toilets; self contained, compact, shower bath cabins. Founded 1947, has 300 employees; annual sales, $28 million. Manfred Rother, Owner-Mgr., Metallwerke Roth KG, D-3563

Buchenau/Lahn. Telephone, 06466-881; telex, 482258. P-761004.

3079—SWITZERLAND — Seeks licenses in **packaging field.** Is particularly interested in manufacturing products made from plastics such as coated and special foils, novel types of bags and related closures. Would be sold to food packaging industry and producers of household, commercial items. Firm is well equipped for plastic extrusion and printing of packaging. Has staff of 130, three affiliated companies, excellent reputation. Wirth & Co. AG, 8180 Bulach. Telex: 54 741 wirth ch. P-761012.

3300—GERMANY—Firm interested in cooperation arrangements with established American **steel producing or trading firms,** with view to complementing each other's line of production on marketing programs. Cooperation would take form of long-term contracts regarding direct sales, representation, transfer of licenses and know-how, or otherwise as suggested by interested U.S. partners. Founded in 1919, firm is one of largest independent German steel dealers, with emphasis on steel specialties; also produces sizable quantities of bright steel. Sales offices and warehouses are maintained in 16 German cities and in Switzerland and Netherlands. Direct steel sales from its own warehouses average 35,000 to 40,000 tons per month. Firm employs 1,500, including sales force of 100. Alfons Ruhe, Schmolz & Bickenbach, Eupener Strasse 70, D-4000 Duesseldorf. P-76993.

3442—FRANCE—Manufacturer of windows desires licensing arrangement for production of **hardware for aluminum windows.** Firm would also buy these products for its own use. Established 1931, employs 300. J. Marchand, Mgr., La Fenetre Automatique, 19 rue Lambrechts, 92300 Courbevoie. P-761017.

3442—GERMANY—Large German firm is interested in licensing arrangement for manufacture of **overhead doors, rolling types.** These sectional doors should consist of various flanged laminas connected to each other, closed and opened electronically, and made of galvanized steel with plastic or aluminum coating. Established 1880, employs 1,600. Herr Bender, Siegener AG, Postfach 101240, 5900 Siegen 1. P-761010.

3443 — BELGIUM — Major ship repairer seeks technical know-how to produce **auxiliary heat exchangers for nuclear power plants and main equipment supports for nuclear power plants.** Firm has industrial division engaged in wide range of activities, such as: piping fabrication and erection, modular construction, design and fabrication of supports for nuclear systems, machine shop facilities. Employs 3,000, belongs to Societe General group, Belgium's most important holding. J. Kuppens, Ass't. Mgr., Mercantile Marine Engineering & Graving Dock N.V., Hansadok 403, 2000 Antwerp. Telephone, 031/41 04 20; telex, 31 219 mercan b; cable, SHAFTING Antwerp. P-76994.

3443, 3448, 3498—GERMANY—Manufacturer of **heat exchangers, apparatus, rotating strip colums, storage tanks, pressure tanks, filter boilers, etc.,** used mainly in chemical and petrochemical industries, is seeking U.S. licenses for manufacture of same and similar products. Company has modernly equipped production facility of 4,500 sq. m. Is able to process all types of steel. Its crane capacity carries up to 40 tons/weight per single work piece. Products may have maximum wall thickness of 50 m. Established 1950, employs 100. Mr. Mueller, Steiner KG, Postfach 3160, 5901 Wilnsdorf-Rudersdorf. P-76995.

3443—GREECE—Manufacturer of **tanks for tanker trucks** used for transport of petroleum and gas, is planning to expand and modernize its facilities to produce all types of tanker vehicles for local consumption and export. Firm is interested in increasing annual production from 40 to 100 units, of which over 50 will be exported. Is interested in licensing arrangement, technical know-how against payment of royalties. Is also interested in joint venture arrangement, equity participation. It has indicated that high technology and improved marketing methods are required. Raw materials, except steel plates, are to be imported. Maintains own plant, 18,000 sq. ft., in industrial section of Pireaeus. Plant is equipped with full line of welding machines, plate and bending rolls, press, "guillotine," lifting equipment, full machine shop and other auxiliary equipment. Athanase Manolias, Mgr., Gionis-Manolias Co., 75 Neou Falirou St., Aghios Ioannis Rentis, Piraeus. Cable: EBIOMEKAT-Piraeus. P-761019. OPIC.

3443, 3711—ITALY—Owner of industrial site in Northern Italy seeks to contact U.S. firms potentially interested in joint venture investment proposal for manufacture of **shipping containers or patented dumping motor vehicles.** Owner operates small firm dealing in motorcycles and bicycles as well as in construction of dumping three wheel motorcycles on purchased chassis. He recently completed construction of two industrial prefabricated buildings on his own area as part of project he started for setting up plant for construction of shipping containers in partnership with local business people now withdrawn from project. Italian businessman now seeks U.S. investors to enter into business with him on equity share basis. U.S. companies should provide equipment, machinery and technology. Industrial area available consists of 21,000 sq. m. of land of which 6,800 sq. m. is covered by two separate prefabricated buildings 8 m. high; is located at Santo Stefano Magra, Province of La Spezia. Methane gas is available for plant operation. Alternatively, U.S. firms may prefer to set up plant for manufacture of dumping motorcycles which he already builds in small workshop on his own patent. Orazio Duvia, Via Carducci 5, 19100, La Spezia. P-761018.

3452, 3469—GERMANY—Firm desiring to expand its production line is seeking licensing agreements for manufacture of **washers, stampings and screw locking devices.** Established 1920, employs 150. Johann Schuerholz, Press- und Stanzwerk AG, z. H.d. Herrn Specht, Postfach 10, Koenigstrasse 88, 5970 Plettenberg. P-761020.

3494 — GERMANY — Seeks licensing agreement for manufacture of **ball and butterfly valves over 10 in.** Established 1948, employs 200. Friedrich Krombach KG, Marburger Str. 364, 5912 Hilchenbach-Dahlbruch. P-761021.

3500—FRANCE—Seeks licenses to manufacture following equipment using advanced technology: **agricultural and food machinery** such as food processing, packaging, packing and handling equipment; **offshore equipment** including winches, handling equipment and deep sea automatic stations; such **steel and ore equipment** as mixers, extractors and special handling machinery; and **special pumps and valves** for liquids and gases. Firm specializes in general and precision mechanical work. Its activities include fabrication of tanks, repair of naval generators, propulsion machines and other deck equipment, maintenance and repair of oil refineries and design and construction of food and chemical equipment. Employs 400; markets in France, North Africa and Middle East. Among its clients **are French** armed forces, steel plants, petrochemical plants. Is affiliated with one of France's largest ship repairing companies. M. Pointud, Mgr., Societe des Ateliers de la Mediterranee, 12 Boulevard Frederic Sauvage, 13014 Marseille. P-76996.

3500, 3600—SOUTH AFRICA—Diversified company seeks licenses to manufacture new products. Has experience in following areas: electronic alarm systems, radio communication equipment, stainless steel hospital equipment, message handling systems. Also interested in production of **solar heating systems.** Is affiliated with very large firm with broad construction and manufacturing facilities. W. Robinson, Dir. and Gen. Mgr., Joffbee (Pty) Ltd., P.O. Box 1022, Cape Town 8000. P-76929.

Important Notice

Most member countries of the League of Arab States employ a secondary boycott against foreign firms which undertake certain specific types of business relationships with the State of Israel. The Commerce Department will not disseminate nor make available for inspection any tenders or trade opportunity documents which contain conditions intended to support such boycotts, or which are based on documents known to contain such provisions. Trade or investment opportunities published herein are not presently known to be subject to such conditions. However, it is possible that U.S. firms responding to opportunities from Arab countries may be asked at some stage of a transaction to participate in an Arab boycott-related restrictive trade practice as defined in the Department's Export Administration Regulations (15 CFR, Part 369 et. seq.).

Firms are reminded that it is the policy of the United States (a) to oppose restrictive trade practices or boycotts fostered or imposed by foreign countries against other countries friendly to the United States, and (b) to encourage and request U.S. concerns engaged in the export of articles, materials, supplies, or information to refuse to take any action, including the furnishing of information or the signing of agreements, which has the effect of furthering or supporting such restrictive trade practices or boycotts. Accordingly, U.S. concerns receiving such requests to participate in a restrictive trade practice or boycott are encouraged and requested to refuse to comply with them.

Firms are further reminded that U.S. concerns receiving requests to participate in a restrictive trade practice or boycott must report such request to the Department of Commerce in accordance with Section 369.4 of the above-cited regulations.

3523—PAKISTAN — American Consulate in Karachi reports that Pakistan offers increasingly attractive market for **agricultural tractors and power tillers.** There is particular potential for small, rugged, diesel powered tractor (15-20 h.p.) with agricultural attachments. With greater emphasis being placed on agricultural development, tractor imports are rising rapidly. Companies prepared to establish assembly/production facilities have opportunity to penetrate this market. Companies interested in exploring such possibilities should write: Naseem Khan, Chmn., Pakistan Automobile Corp., NSC Bldg., Moulvi Tamizuddin Khan Road, Karachi; or S. A. Noor, Chief Eng., Pakistan Tractors Corp., State Life Bldg. No. 3, Dr. Ziauddin Ahmed Road, Karachi. P-76997. OPIC.

3523—UNITED KINGDOM—Large company seeks license to manufacture **maize** and **alfalfa harvesting equipment.** Firm is major manufacturer of heavy products such as truck and tractor cabs, military vehicles, farm machinery, brewery equipment. Has numerous plants in U.K., employs 11,500. Is subsidiary of Guest, Keen & Nettlefords, Ltd., largest international engineering group in U.K. P. E. Baldrey, Product Research Mgr., Sub Group Marketing, GKN Sankey Ltd., P.O. Box No. 214, Hadley Castle Works, Telford, Salop TF1 4RE, England. P-761013.

3537—BRAZIL—Large Sao Paulo firm seeks license to manufacture **stackers** and **reclaimers** with capacity up to 16,000 tons per hour. Presently firm produces overhead traveling cranes, pulleys, hoists and cranes. Laerte Michielin, Supt., TORQUE, S.A. Equipamentos para Elevacao e Transporte de Cargas Industriais, Rua Barao de Itapetininga 275, 4 andar, Caixa Postal 5874, 01000 Sao Paulo, S. P. P-761006. OPIC.

3541—GERMANY—Seeks U.S. know-how licenses for production, assembly and/or servicing in West Germany of **special tool machinery and related equipment.** Firm is equipped with modern machine shops and skilled staff. Also offers technological cooperation to suitable manufacturers and distributors in U.S. in lock and valves lapping machines, special double spindle taper and tracer lathes, polygon turning attachments, automatic capsule dispensers and several other special types of tool machines. Firm was established in 1948 for production, distribution of "custom tailored" special tool machinery and related equipment for use in automotive, apparatus, tool, glass industries. Horst Bautz, Business Mgnt., Wilhelm Beer Spezial-Werkstaetten, Am Hang 21, D-6200 Wiesbaden-Dotzheim, Telephone, 06121-462480; telex, 4 186 500. P-761036.

3541—SWITZERLAND — Seeks licenses to manufacture small to medium sized (under one metric ton of weight) **metalworking machine tools for operations such as precision grinding, turning, drilling, stamping.** Of special interest are small numerically controlled machining centers and devices which can be used for automation and modernization of existing machine tools. Firm is prepared to consider different arrangements whereby heavy machinery could be produced locally and controls imported from U.S. licensor. Swiss concern is well known producer of precision instruments for industrial applications, aircraft and meteorological instrumentation, special machine tools. Is diversifying its activities. Kurt Straumann, Exec. V. Pres., Revue Thommen AG, 4437 Waldenburg. P-761022.

3551, 3569—GERMANY—Wishes to exchange licenses with U.S. manufacturers in the field of **industrial mixing machinery.** Mixers for use in following industries are of special interest: **food products, plastics, rubber, pharmaceuticals.** German firm distributes variety of industrial mixing machinery which is generally subcontracted to other manufacturers, with MTI providing engineering know-how. Wilhelm Schuermann, MTI Mischtechnik GmbH, Braunenbrucher Weg 10, 4930 Detmold 1. P-761007.

3551—MEXICO—Manufacturer of industrial stainless steel equipment for use in pharmaceutical, chemical and food industries, seeks joint venture partner for manufacture of **specialized equipment for above industries,** including food powder mixers, conveyor belt tables. Firm's annual sales volume is U.S. $120,000; estimated sales for 1977, $500,000. Expansion plans include new plant construction. Sr. Edgardo Llanes Briseno, Yabry, S.A., Chopo y Avenida Uno, Xalostoc. P-761008.

3552—UNITED KINGDOM — Manufacturer of **textile machinery accessories** seeks licenses to make similar or compatible equipment. Established 1889, employs 1,500. Has worldwide sales organization. C. S. Hacking, Co. Sec., Ernest Scragg & Sons Ltd., P.O. Box 16, Macclesfield SK11 6JN, England. P-761037.

3559—GERMANY—Seeks cross licenses to exchange technology in **water treatment and pollution control.** Is one of Germany's largest firms specializing in sewage and waste disposal problems. Provides engineering, planning, project management for large municipal treatment plants, and compact installations for industrial plants, schools, hotels. Has also engaged in overseas projects. Firm believes its technology in larger third stage chemical plants and smaller compacter plants for hotels, resort areas may be of interest to American companies. Peter K. Kobert, KWA Maschinenfabrik Automationsanlagen GmbH, Hagenauerstrasse 21, D-6200 Wiesbaden-Biebrich, Telephone, 06121-65394; telex, 4 186 169. P-761038.

3559—GERMANY—Manufacturer of food and chemical processing machinery wants to expand. Seeks license to manufacture **complete desalination installations.** Established 1837, employs 43. Horst Knochenhauer, H. Wolf Apparatebau KG, Elisabethstr. 16, 4937 Lage Lippe. Telex: 0931424. P-761023.

3559—JAPAN—Seeks licenses utilizing latest technology for treatment of **sewage sludge and industrial and municipal waste water.** Technology should be designed to decolorize and deodorize; eliminate phosphorous compounds, nitrogen compounds, soluble inorganic salt and nocuous heavy metals; minimize biological and chemical oxygen demand indexes in wastes. Such processes are sought for industrial reuse, innocuous effluence or disposal of sewage, sludge, waste water. Firm is one of Japan's leading shipbuilders. Also makes industrial products, including motorcycles, helicopters, rolling stock. Employs over 33,000, operates 18 plants in Japan. Tetsuya Shiroguchi, Chief, Technical Group, Environmental Protection & Labor Saving Div., Kawasaki Heavy Industries, Ltd., Nissei-Kawasaki Bldg., 16-1 Nakamachi 2-chome, Ikuta-ku, Kobe 650-91. Telephone, Kobe (078) 341-7731; cable, KAWASAKIHEAD KOBE; telex, 5622355 KAWAJU J. P-76998.

3559—UNITED KINGDOM—Seeks licenses to make any **products using its existing facilities and expertise.** Company manufactures equipment for distillery, brewing, chemical industries, process vessels, road tankers, sewage treatment plants. Also undertakes turnkey projects. Employs 90. J. B. McKeown, Mgr. Dir., Mcleod & Miller (Eng.) Ltd., Whistleberry Road, Blantyre, Glasgow, Scotland. P-761039.

3566, 3568—GERMANY—Firm seeks U.S. know-how and license for production and marketing in West Germany and/or Western Europe of highly **specialized power transmission equipment,** such as torsional flexible couplings, flexible rubber elements, gears, and related equipment, for industrial use, to complement its own line of specialized products in this field. Also offers reverse licensing arrangements to suitable manufacturers, distributors, and/or joint venture partners in U.S. Is a leading manufacturer of flexible couplings (shaft flange, double flange), including shifting couplings, gear couplings. It maintains modern production facilities; employs 160. Harald Barth, Mgr., Albert Tschan KG, Maschinenfabrik, Zweibruecker Strasse 104, D-6680 Neunkerchen/Saar. Telephone, 06821-88041; telex, 04 44810 Tskup. P-76999.

3573—GERMANY—Seeks licenses for **hospital oriented computer software** for application in areas such as cost control, administration, accounting. Firm is active in hospital consulting field. Tests new equipment, provides technical advice in selection and purchase of high technology equipment by hospitals. Dr. Huppertz, Pruefgemeinschaft Bach-Doettl, Friedenstrasse 62, 62 Wiesbaden. P-76939.

3573—SWITZERLAND—Seeks to manufacture under license **300 to 400 asynchronous cathode ray tube video display units** over two-year period. Units are for Swiss government agency. Interested in arrangement with small, medium sized U.S. firm not presently serving the Swiss market. Etienne B. Rivat, Pres., Rivat Techniques & Informatics, P.O. Box 121, 1213 Petit-Lancy, Geneva. Telephone, 022/92 34 56. P-6761011.

3585—TURKEY—Seeks to acquire technology and design layouts for **solar heating of small apartment buildings.** Buildings would be constructed on Mediterranean coast, which enjoys very high degree of annual sunlight. System would ideally have application for cooling in summer. Turkish firm fabricates industrial heating and cooling systems. Has strong reputation in ventilation and climate control. Hermn Scherler, Owner & Mgr., Klima Teknik, Tershane Caddesi, Bugulu Sokak, Ugurhan 18/8, Karakoy, Istanbul. P-761047. OPIC.

3589—SWITZERLAND—Manufacturer of industrial water treatment equipment, swimming pool water filtering systems, and special type air conditioners, seeks licensing arrangement for production of advanced **water treatment machinery operating on principle of ion exchange.** Established 1947. Is well equipped, has modern R&D laboratory. P. Zuercher, Pretema AG, 8903 Birmensdorf. P-761024.

3600—FRANCE—Major, diversified company is interested in **manufacturing under license or distributing any products complementary to its activities.** Firm makes railway signaling and traffic regulation devices, military, marine and

weapon guidance equipment, automated systems, electronic equipment for highway traffic controls; is engaged in electrical installations. Established 1902, employs 4,400; has excellent reputation. Jacques Geisler, Asst. Commercial Mgr., CSEE, 2/8, rue Caroline, 75850 Paris Cedex 17. P-761025.

3612—UNITED KINGDOM — Manufacturer of **transformers, power rectifier equipment, high voltage test equipment** seeks license. Wants to make products, not necessarily associated with present line, to distribute in EEC. Firm has solid background in heavy electrical equipment and competent team of electronic engineers. Is affiliated with one of Britain's largest, most successful electrical groups. B. Barton, Deputy Chmn., Foster Transformers Ltd., The Path, Modern Road, London SW 19 3 BN, England. P-761000.

3612—UNITED KINGDOM—Seeks license to manufacture **products associated with broadcast lighting equipment.** Firm designs, produces, markets computer terminals and computerized lighting control systems for broadcasting industry. Employs 20; annual sales, $1 million. Derek A. Tugwell, Mng. Dir., Dynamic Technology Ltd., Zonal House, Alliance Road, Acton, London W3 OBA, England. P-76926.

3620—GERMANY—Seeks licenses to produce **electromagnetic equipment, including control valves** to supplement present line. Company has skilled labor and equipment available for production of electromagnetic equipment, devices, components. Firm is also interested in **locating American companies to distribute its products in U.S.** Is efficiently managed, employs 250. Egon Scheurer, Bus. Mgr., EKS Elektrommagnetik Dr. Scheurer KG, Steinbeisstrasse 50, D-7143 Vaihingen/Enz. Telex, 07 263 812; telephone, 07042-4006. P-761040.

3621—KOREA—Seeks 50-50 joint venture to produce **micro a.c. or d.c. motors, 3 w. or less for use with tape recorders, turntables and mini computers.** Estimates total investment of $400,000. U.S. participant would provide technology, equipment components, parts. Presently only one local firm produces these motors for domestic demand of approximately five million. Korean company manufactures agricultural chemicals and fertilizers. Young T. Ha, Mng. Dir., Kyungbuk Agricultural Chemical Co., Ltd., C.P.O. Box 647, Seoul 100. Telephone, 75-4251; cable, AGROCHEM SEOUL. WTDR. P-761045. OPIC.

3662—UNITED KINGDOM — Manufacturer, importer and exporter of **radio communications equipment, air defense target systems and quartz crystals,** seeks licensing agreement for manufacture of items similar to its current range. Firm is particularly interested in RPV guidance systems. Michael H. Nicholas, Mng. Dir., Aero Electronics (AEL) Ltd., Gatwick House, Horley, Surrey RH6 9SU, England. WTDR. P-761001.

3670, 3573, 3679, 3823—GERMANY—Seeks licensing agreements for manufacture of **specialty electronic components, measuring instruments and equipment, computer peripherals, microwave components.** Firm manufactures, distributes recorders, measuring and testing instruments, active components, operational amplifiers, AD/DA converters, systems power supply, microwave components and sweepers, graphic computer peripheral equipment and transducers. Kontron Elektronik GmbH, Oskar-von-Miller-Str. 1, D-8057, Eching. WTDR. P-761002.

3679—AUSTRIA—Manufacturer of electrically operated garage doors, turning and sliding gates, is interested in establishing contact with U.S. manufacturers of **remote controls** for such doors and gates. Firm would like to import remote controls including transmitter and receiver units operating at frequency of 27,045 MHz. In return, company would offer design know-how for production of prefabricated standardized support elements for turning and sliding gates which greatly facilitate installation of such units. Support elements developed by Austrian firm incorporate driving mechanism, electromagnetic lock, light barrier (optional), letter box, intercom telephone and conduits to accommodate necessary wiring. Interested U.S. companies should write Max Auer, Weinitzengasse 55, A-8045 Graz-Andritz. Information copies should be sent to American Emb. Vienna, Commercial Section, 1X Boltzmanngasse 16A-1091, Vienna. P-761026.

3700—FRANCE—Subcontractor for mechanical industry is seeking licensing or subcontracting arrangement to manufacture **mechanical parts for automobile, aviation, communications, plumbing industries.** Mrs. Richard, Mgr., SEM, rue du Faubourg, 08110 Carignan, France. Telephone, 24-28-03-39. P-761027.

3792—MEXICO — Firm seeks joint venture for manufacture of **camping equipment.** Technical assistance is also desired. Currently manufactures electric motors. Established 1959. Correspondence may be submitted in Spanish or English. Enrique Acuna, Ortiagas 40, Bulevares, Edo. De Mexico. Telephone, 905-562-0614. P-761046.

3820—AUSTRIA—Seeks to establish contact with U.S. companies to offer use of its manufacturing facilities. Firm is large manufacturer of **measuring instruments.** It has in recent years switched from production of electro-mechanical instruments to predominantly electronic devices. As a result, company now has excess precision metalworking facilities. As firm is unwilling to abandon excess capacity, company would like to make these production facilities available to other manufacturers.

Austrian firm would have available about 40,000 man-hours annually without working in shifts. Metal working department includes modern turning, milling, drilling and stamping tools; new 6- to 60-ton presses; thermo plastic molding machines for parts weighing 4 g. and 200 g.; copper, nickel and zinc plating facilities; light metal anodizing equipment; spray painting equipment; semi-automatic wire and winding machines. In addition, there is a tool and die making department and highly efficient assembly line operated by experienced mechanics. Established 1922, employs 500. Sales in 1975 were over $10 million. Its products, electrical and electronic measuring instruments, are exported to countries all over world. Ideally, firm would produce parts and components for American concern or its European subsidiary against adequate compensation. Under certain circumstances, Austrian company would also consider licensing arrangement provided products involved would fit its general sales program. Adolf Schendl, NORMA messtechnik GesmbH, Fickeysstrasse 1-11, A-1111 Vienna. P-761028.

3823—UNITED KINGDOM — Seeks licensing arrangement for manufacture of **digital panel meters for voltage, current, power, temperature frequency; process control modules such as set point controllers, proportional controllers, transducer signal conditioners, multiplexers; data acquisition systems for industrial and aerospace applications.** Firm employs 1,750, operates as manufacturer of digital panel meters, industrial data acquisition and recording and ice detection equipment. Current sales volume, $30 million. R. B. Strange, Product Line Mgr., Electronics, Normaclair-Garrett Ltd., Yeovil, Somerset BA20 2YD, England. P-761029.

3825, 3613—GERMANY—Firm seeks U.S. know-how, licenses for production, assembly, and/or servicing in West Germany of **innovative electrical/electronic control instruments, switchgear and related industrial equipment.** German company also offers its licenses to suitable partners in U.S. in product lines mentioned. Established 1946 for production, distribution of electrical/electronic measuring, control instruments and related equipment for industrial, commercial use. Firm is equipped with modern facilities and skilled staff. Employs 220; exports worldwide. Ansorge, Gen. Mgr./Partner, Geraetebau Eltville GmbH, Erbacher Strasse 33, D-6228 Eltville/Rhein. Telephone, 06123-4014; telex, 4 182 441. P-761041.

3829—GERMANY — Seeks cooperation with U.S. manufacturer of **electronic equipment for measurement of vibration, such as balancing equipment, vibration monitoring systems, vibration transducers, vibration meters.** As first step of cooperation envisaged, German firm would sell U.S. partner's equipment, if it does not interfere with own products, along with own line through established distribution channels. U.S. company, in turn, would do same with German company's products in U.S. After initial phase of eval ation of market potential and desired product mix under provisions of cooperation agreement, further negotiations would involve exchange of know-how, licensing or cross licensing arrangements, or other forms of technical cooperation as deemed appropriate. Established 1881; employs 4,200. German concern has four production facilities, all in the State of Hesse. Its production program is extensive and includes such equipment as scales, balancing machines, material testing equipment, automotive testing machinery, conveyors, woodworking machinery, various other types of industrial equipment. H. Ulrich Olsen, Chief Eng., Carl Schneck AG, Landwehrstrasse 55, D-6100 Darmstadt. P-761042.

3949—PAKISTAN—Large manufacturer, exporter of sporting goods, seeks joint venture arrangement for mechanized manufacturing of **tennis rackets.** U.S. partner should provide fully automatic machinery and equipment, technical know-how and on-job training. Pakistani partner will provide all other expenses including building, personnel, raw material. Principal product lines include tennis, badminton, squash and paddle rackets; soccer, basket, hand, rugby and cricket balls, field hockey sticks, cricket bats and related equipment, boxing, ice hockey, cricket gloves. Established 1910. Javed Iqbal Soni, Mng. Dir., Remington Sports Ltd., Mubarikpura, Sialkot-1. WTDR. P-761043. OPIC.

3952—BRAZIL—Manufacturer of carbon paper seeks collaboration for manufac-

ture of **waxed crayons and sealing wax.** Established 1949. Wilson Almeida Freitas, Pres., Industrias Guiwat De Papeis Carbono Ltda., Postal 21223, Rua Viuva Claudio 394, 20000 Rio de Janeiro ZC-15 (RJ). WTDR. P-761044.

7011—NIGERIA—Plateau State desires U.S. firm to **construct, manage 300-bed hotel.** State Government would assume 60 percent ownership. Jibrin Ahmed, Commissioner for Trade, Industries & Cooperatives, Jos, Plateau State. P-761003. OPIC.

Licensing In U.S.

For additional information on these opportunities to manufacture foreign firms' products in the United States under a licensing agreement or in partnership, write the Domestic Investment Services Staff, Bureau of International Commerce, Room 4020, U.S. Department of Commerce, Washington, D.C. 20230 (202-377-5361), referring to file number.

Investments in facilities

BELGIUM — Large company wants to start its own manufacturing facilities in U.S.—to employ 60 to 70 American workers—initially for production of its **special golf clubs,** with an annual sales volume of $2.5 to $4.5 million during first three years. Write: Michel Vandestrick, Dir. & Gen. Mgr., Fabrique National Herstal-F.N., S.A. Voie de Liege 33, 4400 Herstal. File 3212.

BELGIUM—Large company is interested in operating **zinc residue treatment plant** in U.S., specifically near Missouri River. Its initial investment would be $1.2 million for facility to employ 20 Americans. Firm was established in 1829, employs 2,000 in Belgium. Write: Pierre Latteur, Dir. Gen., Adjoint de la Societe de Prayon, 4940 Foret-Trooz. File 3213.

BELGIUM—Small company is interested in investing in factory in U.S. to make new kind of **window frame.** Exterior of frame is plastic and interior is wood; no maintenance is needed. Write: Rene Dahm, Mgr.-Owner, Henri Dahm SPRL, rue du Champ de Tir 12, B-4890 Malmedy. File 3214.

GERMANY—Large self-service marketing chain is interested in investing in **self-service marketing operation** in U.S. Chain has sales of $520 million, with nonfood lines accounting for over half of annual sales. Write: Herr Karl-Heinz Kipp, Fred Massa GmbH, Friedrichstr. 15, 6508 Alzey. Telex: 42427; telephone, 06731-8401. File 3215.

GERMANY — Producer of **anti-vibration elements** for isolation of sensitive machines from ground vibration, and for use in acoustic and noise abatement is interested in establishing firm in U.S. with initial production facility of 1,000 sq. m. and 20 Americans. It expects to double production space and employees in two years, and increase to 4,000 sq. m. eventually. Required property is 10,000 sq. m. Plant does not require rail connection, since trucks can take care of transportation requirements. Company serves automobile industry and other industries. German plant has sales of about $3 million. Write: Gerhard Engstler, Gummi-Metall-Technik (GMT) Im Ehlet 24, D-7580 Buehl. Telex, 78702; telephone, 07223/25176. File 3216.

GERMANY — Well-known manufacturer of **knuckle-joint, extrusion and high speed stamping presses,** with 60 percent of German market, is interested in establishing manufacturing plant in U.S. on suitable site of 1,000 sq. m. for initially 20 U.S. employees to be trained by German technicians. Write: American Con. Gen., File #009, Cecilienallee 5, 4000 Duesseldorf 30. File 3217.

GERMANY — Manufacturer of **specialty mold release agents, additives, and processing aids** for rubber and plastics industries is interested in establishing plant in Middle Atlantic region of U.S. Current plans call for first stage investment in warehouse facilities employing 5 to 7 Americans, and second stage is construction of laboratory and production plant to employ 15 to 20 Americans. Write: Peter Wuertz, E. & P. Wuertz GmbH, KG, Postfach 231, 6530 Bingen/Rh.-Sponsheim. Telephone, 06721-14517; telex, 042203. File 3218.

Licensing/joint ventures

GERMANY—Very large manufacturer of **air, oil, gasoline, and hydraulic systems filters** used with compressors, gasoline and diesel engines for automotive, machine tool, hydraulic, chemical, heating and energy industries is interested in joint venture for production of its line in U.S., with U.S. company of similar size on 50-50 basis. U.S. partner should be in same field or affiliated one such as metal working or plastic processing, with preferably good business contacts with automobile industry and others using filters produced. Company employs 4,000 in Germany, has annual sales of $140 million. It supplies, among others, Volkswagen and Daimler Benz. Plans sales volume of $6 million in first stage of its U.S. investment and will provide manager and some technicians to train 100-120 Americans to be employed in joint venture plant. Address: American Con. Gen., Urbanstrasse 7, D-7000 Stuttgart. File 3219.

GERMANY — Well-known manufacturer of dental rotating instruments is interested in joint venture in U.S. for production of its **tungsten carbide burs** on 50-50 basis. German firm will provide machinery and know-how; U.S. firm is to provide equivalent amount in capital. Estimated requirements are 15 to 20 machines, each costing between $30,000 and $40,000. Initial number of machine operators would be three to be trained in Germany by firm's experts, and later 20 to 30 operators. German company employs 250, has sales of about $10 million. Small U.S. firm operating in same field would be preferable as partner, but any size firm will be considered. Write: Karl-Heinz Noack, Hager & Meisinger GmbH, Kronprinzenstr. 5-11, 4000 Duesseldorf. Telex, 8581430. File 3220.

GERMANY—A leading manufacturer of **measuring, controlling and regulating instruments** seeks licensing or joint venture with U.S. company for production of its line in U.S. German plant employs 150 and has sales of $10 million. Write: Klaus Althof, Klaus Fischer, Mess- und Regeltechnik, Postfach 5080, 4902 Bad Salzuflen 5. File 3221.

GERMANY—Manufacturer of **steam generators, power plants, and boilers and firing equipment** for solid, liquid and gaseous fuels, for chemical, petro-chemical, refining and other industries is interested in cross-licensing technology with U.S. firms. German facilities employ 650, have sales of $50 million. Write: Jachim Kuemmel, Ferdinand Lentjes, Hansa Allee 305, 4000 Duesseldorf-Oberkassel. File 3222.

GERMANY—Manufacturer is interested in cross-licensing or joint venture arrangements in **lubricating grease specialties and automobile body polish and cleaners.** U.S. partner should be, preferably, manufacturer of standard-grade lubricating greases. German plant employs 100, has sales of $5 million in 30 countries. Write: Lothar Kieber, Deutsche Calypsolgesellschaft, Fringsstr. 20-26, D-4000 Duesseldorf. File 3223.

GERMANY—Manufacturer of **skylights, ventilating systems, roof drainage systems and flat roofing systems** for building and construction seeks U.S. partner or licensee for manufacture of its systems in U.S. German plant employs 730, has sales of $50 million. Write: Technische Leitung, Klaus Esser KG, Postfach 2909, 4000 Duesseldorf. File 3224.

GERMANY—Manufacturer of **road and railroad signal systems** is seeking U.S. partner/licensee to produce its large-area plastic reflectors used for reflex-reflecting traffic signs or the like and photo electric devices such as light barriers for accident prevention. Reflector is covered by U.S. Patent 3948714 granted April 6, 1976. German plant has 65 employees. Write: Herr Gubela, Hans Gubela GmbH, Postfach 910270, 5 Koeln 91. Phone, 0221-8000021; telex, 08873453. File 3225.

GERMANY — Manufacturer/exporter of food and chemical processing machines wants to grant license for manufacture of its **apparatus for boiling, cooking, steaming and sterilizing liquid, porridge-like or lumpy foods under pressure.** Apparatus allows pressure cooking to be performed continuously, gauge pressure and feed rate can be controlled, cooked product can be cooled while still in apparatus and overall operation is self-regulating. Covered by U.S. Patent No. 3965806 granted June 29, 1976. German firm has 43 employees, sales of $2 million. Write: Horst Konchenhauer, H. Wolf Apparatebau KG, Elisabethstr. 16. 4937 Lage/Lippe. Telex, 0931424. File 3226.

GERMANY—Manufacturer is interested in cross-licensing with U.S. firms in innovative **electric-electronic control instruments, switchgear, and related industrial equipment.** Company has 220 employees. Write: Mr. Ansorge, Gen. Mgr./Partner, Geraetebau Eltville GmbH, Erbacher Strasse 33, D-6228 Eltville/Rhein. Telephone, 06123-4014; telex, 4 182 441. File 3227.

GERMANY — Manufacturer offers technological cooperation to suitable manufacturers in U.S. in **lock and valve lapping machines, special double spindle, taper and tracer lathes, polygon turning attachments, automatic capsule dispensers, and several other special types of tool machines.** Company has 50 employees, $2 million sales. Write: Horst Bautz, Bus. Mgmt., Wilhelm Beer Spezial-Werkstaetten, Am Hang 21, D-6200 Wiesbaden-Dotzheif. Phone, 06121-462480; telex, 4 186 500. File 3228.

GERMANY — One of Germany's largest firms specializing in sewage and waste disposal problems is interested in exchanges of technology through cross-licensing in **water treatment and pollution control.** Firm mentioned third-stage chemical treatment plants, and smaller compacter plants for industrial plants, schools, hotels, resort areas, and small

home communities. Has engaged in projects overseas including Saudi Arabia. Write: Raimund A. Bach, Mng. Dir., OMS-Klaeranlagen, Deutsche Abwasser-Reinigungs mbH, Adolfsallee 27/29, D-6200 Wiesbaden 1. Phone, 06121-39071; telex, 4186630. File 3229.

GERMANY — Company is interested in joint venture in U.S. and cross-licensing in production of custom-tailored **automated materials transfer and feed machinery, conveyors** and related equipment for use in various industries. German plant employs 70, has sales of $3 million. Write: Peter K. Kobert, KWA Maschinenfabrik Automationsanlagen GmbH, Hagenauerstrasse 21, D-6200 Wiesbaden-Biebrich. Phone 06121-65394; telex, 418-6169. File 3230.

GERMANY—Firm is seeking U.S. company for cross-licensing of **electronic equipment for measurement of vibration,** such as balancing equipment, vibration monitoring systems, vibration transducers, vibration meters, and others. The German plants employ 4,200. Write: Ulrich Olsen, Chief Eng., Carl Schenck, AG, Landwehrstrasse 55, D-6100 Darmstadt. File 3231.

GERMANY—Firm in packaging field is seeking U.S. spinning mills/paper processors interested in manufacturing German firm's newly developed **sealing cord** under license in U.S. Cord fills and seals space between dummy bar and ingot mold of cold continuous casting machinery in steel working and rolling mills. It is claimed to be superior to customarily used asbestos cord that becomes "leaky." Is being used in Germany and other EEC countries. Company has sales of 2 million. Correspondence should be directed to Klaus Dominick, KOPA Vereinigte Papier- & Verpackungs-GmbH & Co. KG, Spangerstrasse 4, 4000 Duesseldorf 13-Reisholz. File 3232.

GERMANY — Well-known manufacturer of high quality **toy automobile models** is seeking American firms to manufacture its toy models under license or possibly joint venture agreement. Write: American Con. Gen., File #010, Box 515, APO New York 09080. File 3233.

GERMANY — Manufacturer of advertising letters, light displays and commercial illumination equipment and accessories is seeking to establish cooperation agreements with acrylic glass processors/chemical plants interested in manufacturing and distributing the German firm's **advertising letters** in U.S. German company has invented new technique of forming sharpedged acrylic glass products without vacuum forming or injection molding, but looks to be from injection molding, and holds Patent No. 3683461 of Aug. 15, 1972, on special snap fastening method developed for advertising letters/signs. Company employs 25, has sales near $2 million. Write: Weidemann, Rudolf Weidemann GmbH & Co., Postfach 180-326, 4000 Duesseldorf 13. Telex, 08588420. File 3234.

GERMANY—Firm wants to license to U.S. manufacturers its fully automatic, **air-cooled machinery for forming expandable polystyrene into packaging, noise insulation, and decorative applications.** Joint venture is possibility. Company employs 100, has sales of $6 million. Write: Eckhard Hoffman, Lendle & Co. KG, Werkerstrasse 16, D-6906 Taunusstein 4. Telephone, 06128-8066. File 3235.

GERMANY—Firm specializing in **gravure press machinery** for decorative printing for wood and furniture, textile and carpet, and advertising industries, for printing on plastics and other synthetics, for specializing in continuous forms for telex, EKG and other medical applications, computer and other EDP, and for recording truck routing and performance, is interested in exchanging technology with U.S. firms in cross-licensing arrangements.Write: Frau Beate Kurreck, H.C. Moog GmbH, Maschinen fuer Druck und Papier, Am Engergraben 1, 6220 Ruedesheim am Rhein. Phone, 06722-2411. File 3236.

GERMANY — Agent for Swiss firm Estralla AG, large manufacturer of **pressure vessels, pipes and special pieces lined with acid resistant enamel,** is empowered to negotiate joint venture agreement with U.S. firm for production of Swiss line in U.S. Write: Peter A. Seedorf, Industriehandel Renicke & Seedorf, Drosselweg 32, 4134 Rheinberg 1. Telex, 01812430. File 3237.

SWITZERLAND — Company offers for manufacture under license in U.S. its recently patented **luggage caddy** marketed in Switzerland and other West European countries under name "Shopping Boy." Write: Starmex AG, Badstrasse 6, 6210 Sursee. File 3238.

FRANCE—Firm seeks U.S. licensee and/or joint venture partner to produce its line of high performance **carbide milling or cutting tools** for U.S. market. Firm exports to 40 countries, has major share of French areospace industry market as well as substantial share in shoe industries. Company claims 7-year edge on competing American technology. Write: Roger K. Ritaud, Pres., Rito SA, 33160 Saint Medard En Jalles. File 3239.

AUSTRALIA—Firm is seeking U.S. partner for manufacture of **furniture** in U.S. Australian firm will furnish knocked-down wood components from its factory in Singapore for finishing and assembly in U.S. Write: Peter Louch, Dir., Campaign Furniture Associates Pty. Ltd., P.O. Box 76, Broadway, N.S.W., 2007. Cable address, ENVIRONDIGN; phone, Sydney 660 4222. File 3240.

The following trade opportunities are based on reports received from the U.S. Foreign Service—Department of State by the Trade Opportunities Division, Room 2323, U.S. Department of Commerce, Washington, D.C. 20230. The commodities in which foreign firms have interest indicated by codes 0111-1799 and 4011-8999 are based on the Standard Industrial Classification Manual, 1972; codes 20 through 39 come from Numerical List of Manufactured Products (New 1972 SIC Basis), MC72-1, 2. Codes beginning with 99 are from the TOP coding system.

U.S. firms should be aware that the listing in Commerce America *of opportunities to trade in specific commodities and technical data does not necessarily imply approval of their export by the Department of Commerce pursuant to the Department's Export Administration Regulations. Applicable export licensing regulations must be followed.*

Every effort is made to include only traders with good reputations. However, the Department cannot be responsible for any trade relations.

WTDR indicates that a World Traders Data Report on this specific firm is available at $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230. A WTDR is a trade profile which contains commercial information including financial references, on an individual foreign firm. Orders must include complete name and address of the subject firm and be accompanied by payment. Further information concerning WTDRs and request forms are available at each Commerce District Office.

The mark (•) indicates that this trade opportunity is a request for bids by a foreign government agency.

Direct Sales

General building contractors

• **1541, 355XXXX — ETHIOPIA** — National Textiles Corp. (NTC) invites firms to bid for spinning plant and auxiliary equipment for production of 2491 tons of carded cotton yarn per year; 640 tons of 10's NE (15 TEX) 10.15 T.A.I., 1347 tons 21's (28 TEX) 16.27 T.P.I., and 504 tons of 40's (15 TEX) 25.34 T.P.I. Bid should include design, supply, transport, installation and commission of plant. Physical characteristics of cotton fiber available for spinning: type—Acala, length—1⅛ in., finances—3.3-3.6 micronaire and maturity ration 0.75-0.88. Mill is to be installed in Addis Ababa, approx. 38 degree east longitude and 9 degree north latitude and 8000 ft. above sea level. Performance bond of 15 percent of total contract price required. Specifications must be obtained from National Textiles Corp. (NTC), P.O. Box 2446, Addis Ababa, prior to submitting offers. Bid deadline Jan. 31.

Heavy construction

• **1629 — TRINIDAD** — Central Tenders Board invites suppliers to submit technical information on package type complete water treatment plants to supplement present domestic water supply. Seven sources ranging in size from 0.5 to 2.0 million (imperial) gallons per day so far identified. Treatment units should be capable of coagulating, filtering and disinfecting. Interested firms should contact Fred E. Harem or Kent Koza, Engineering Consultants, Trintoplan/CH2M, Corvallis, Oregon, before bid deadline of Feb. 1, and notify Director of Contracts, Central Tenders Board, Elizabeth St. & St. Clair Ave., St. Clair, Port-of-Spain, by letter or telex.

Public building, related furniture

• **253XXXX, 264XXXX, 273XXXX, 357XXXX — MALAWI** — Government Central Tender Board invites bids for

supply of educational furniture and equipment as follows: furniture for classrooms, science laboratories, offices, dining rooms, dormitories and houses; instructional equipment for woodwork, metalwork, home economics, shorthand and typing, language laboratory, art and craft, sports, games and recreation, agriculture; stationery and books. Government of Malawi, with financial assistance from IDA, has embarked on program of educational expansion and consolidation affecting primary and adult education centers, secondary and primary teacher education levels. Est. value U.S.$1.6 million. Firms who wish to be included on mailing list and to receive invitations to bid should express field(s) of interest to The Project Manager, Second IDA Education Project, Private Bag 315, Chichiri, Blantyre 3. Refer to Tender No. 1627, Credit No. 590 MAI. Submit expression of interest by Jan. 31.

Paper mills

262XXXX, 264XXXX, 283XXXX, 287XXXX, 331XXXX, 371XXXX—GHANA — Recently established Ghana National Procurement Agency (GNPA), has assumed functions of government's Logistics Committee. GNPA has been designated sole importer and distributor of selected commodities and plans to issue tenders shortly for most products involved. Currently specified items: sugar, mackerel (canned in tomato sauce), ingredients for soap & detergents, milk concentrates, baby foods, hops, malt, iron reinforcing rods, paper and newsprint, raw cotton, wheat, pharmaceuticals, clinker, scrap iron, meat (frozen or canned), fertilizers, hospital equipment, and motor vehicles, parts and accessories. Interested suppliers required to register with GNPA to receive tender notices and related documents. Registration fee is Cedis 30 ($26.10) per commodity, addressed to: Chief Executive, Ghana National Procurement Agency, c/o Ministry of Trade & Tourism, P.O. Box M-47, Accra. Tenders issued by GNPA have extremely short due dates and since airmail between U.S. and Ghana has recently taken 3-4 weeks in each direction, interested United States firms should register promptly with the Ghana National Procurement Agency.

Books

2732361—CAMEROON—Work books (exercise books). Firm is new but has good standing with 2 local banks. Management & potential for future appear good. Recommended as trade contact with normal commercial safeguards. Call or cable—Kago Lele Jacques, Mgr., Societe Dexpansion et de la Culture, PB 1282, Yaounde. Cable Socamec Yaounde; tel 22-14-63.

Drugs

• **2831XXX, 2834XXX, 3841XXX, 3842XXX, 3851XXX — BOTSWANA** — Variety of drugs, dressings, vaccines, and other hospital supplies. Tender No. 1977/78. Approximately 450 line items including anesthetics, powders, ointments, drops, elixers, jellies, paints, solutions, suspensions, syrups, capsules, tablets, injectables, bandages, plasters, sutures, tape, diagnostic kits, orthopedic and surgical equipment, etc. Closing date Feb. 4. For more information, contact Leo R. McIntyre, U.S. Department of Commerce, Room 2104, Washington, D.C. 20230; 202-377-2239.

Abrasive, asbestos, nonmetallic mineral products

• **329XXXX, 331XXXX — HONDURAS**—Various sizes and quantities of asbestos cement pressure pipe and ductile and galvanized iron pipe; also fittings for above pipe. Tender No. 05-76; bid deadline Jan. 28. Instituto de la Vivienda, Barrio Guanacaste, Avenue Gutemberg No. 1551 Tegucigalpa. Tender documents available from above address at 100 Lempiras (U.S. $50).

Steel mill products

• **331XXXX — THAILAND** — Various sizes and quantities of pipe for water distribution; also fittings and valves. Tender No. MWWA-A-108; bid deadline Feb. 3. Metropolitan Water Works Authority, 372 Bamrung Muang Road, Bangkok. Tender documents available from above address at $125 per set.

Rolling, drawing, extruding of nonferrous metals

• **335XXXX — GUATEMALA** — 219,000 meters of electric transmission cable, ACSR No. 2 AWG, unclad, sparrow type for 13.2 KV transmission lines. Tender No. 19-76; bid deadline Jan. 20. Guateamlan Institute of Electrification, Avenida 2-73, Zona 4, Guatemala City. Tender documents available from above address. Firms wishing to bid must have local representative.

Cutlery, hand tools, gen'l hardware

3421141, 3421198—GERMANY — Pocket knives & other folding-blade knives; other cutlery. Founded 1958; employs 3 & lists annual turnover at DM 500,000. Usual care appears warranted in financial dealing. Reply to—Herr Muehlhaeuser, Mgr., Fa. Muehlhaeuser, Reichenbronner Strasse 140, 7530 Pforzheim. Telex 07-83614; phone 07231/71621.

Metal stampings

• **3469XXX—GREECE**—Supply of 20,000 helmets, M-1 type for Hellenic Army Command. Specification No. 34-K-689/4-11-70. Purchase to be financed from Greek Government budget. Submit bid to Ministry of Commerce, State Purchases Directorate 2, 20 Kannigos St., Athens. Copies of documents may be obtained from above address or U.S. Department of Commerce, Bureau of Domestic Commerce, Room 1104, Washington, D.C. 20230.

Electric transmission, dist. equip.

• **3612XXX—PANAMA** — Proposals for supply and delivery to site of 3 power transformers will be received until Jan. 27 by Purchasing Dept., Instituto de Recursos Hidraulicos y Electrificacion (IRHE), Poli Bldg., Justo Arosemena Ave. & 27th East St., Panama City. IBRD has made $30 million loan toward IRHE's electrification program. Bid documents may be inspected at IRHE's offices in Panama or at Panamanian Embassies in U.S., France, Italy, U.K., Brazil, Germany, Spain, Japan. Complete set of documents may be obtained only at IRHE offices in Panama or P.O. Box 5285, Panama 5, with non-refundable payment of $20 per set. Refer in correspondence to Bid No. 487-75.

Electrical lighting, wiring equipment

• **36410XX, 36222XX, 33571XX, 22410XX —COSTA RICA**—30,000 units light bulbs, 200 watts; 200 units starters and relays, 220 volts; 178,400 meters cable and wire, electric; 2050 KGR's. super formex wire for bobbins AWG Nos. 15 to 25, inclusive; 5000 rolls plastic insulating ribbon. Articles to be used in Arenal Hydroelectric Project. Prices quoted must be good for 90 days after bid's expiration date. A 4-month participation guarantee of 5 percent of offer and performance guarantee of 10 percent of award are required. Payment conditions are by letter of credit or 30 days sight draft. Prompt delivery an important consideration in winning award. Bids should be submitted to Hugo Castro B., Jefe Proveeduria, ICE, Instituto Costarricese de Electricidad, Apartado 10032, San Jose, Licitacion Publica No. 3188. Bid closing date Jan. 20. Specifications may be obtained at no cost from ICE or U.S. Department of Commerce, Consumer Goods and Services Division, Room 1104, Washington, D.C. 20230. Financed by Inter-American Development Bank and ICE.

Communications equipment

• **3661XXX — SINGAPORE** — Telecommunication Authority of Singapore, 4th floor, Plaza Singapura, 68 Orchard Road, Singapore 9 has issued tender no. PT/145/76(x) for supply of 400,000 lines of telephone exchange switching equipment for local exchanges, with option for another 200,000 lines. Job includes model exchange, training exchange (or combined training/model exchange), tandem exchanges, centrex exchanges, maintenance and operations center, and repair center. Bid deadline April 1. Copy of specifications available from above address upon deposit of bank draft for S$2000 (approx. US $820) in favor of The Telecommunication Authority of Singapore, and crossed "Account Payee Only." Deposit will be refunded to bona fide unsuccessful bidders.

• **3661XXX—SINGAPORE** — Chow Chin Tong, Head, Purchasing, General Support Department, Telecommunication Authority of Singapore, 4th floor, Plaza Singapura, 68 Orchard Road, Singapore 9 has issued tender no. PT/143/76(z) for supply of 350,000 table telephone instruments in various colors, plus option for an additional 100,000 instruments. Bid deadline Feb. 11. Copy of specifications available from above address, on deposit of S$2000 (approx. US$820) in form of bank draft in favor of The Telecommunication Authority of Singapore and crossed "Account Payee Only."

• **3662XXX—INDIA** — Directorate General of Supplies and Disposals, Parliament St., New Delhi 110001, has issued tender no. ES-6/209/047/3.11.76/36/CELL 552 for supply of transistors and tubes for Selenia radat ATCR-2D. Bid deadline Jan. 28. Copy of specifications available from India Supply Mission, 2536 Mass. Ave. NW., Washington, D.C. 20008, at US$5.55 per set.

• **3661XXX—BOLIVIA**—Servicio Municipal de Telephonos Automaticos Cochabamba, Casilla 587, Cochabamba, has issued tender no. 2/76 for enlargement of Cochabamba telephone system with 8,600 lines. Bid deadline March 1. American firms must have Bolivian representatives. Copy of specifications available from above address for U.S.$500.

• **3661XXX — COLOMBIA** — Division Comercial, Empresas Publicas de Medellin, Edifico Miguel de Aguinaga, 6 Piso, Oficina 607, Medellin, has issued tender no. 19/10/76 for supply and installation of 17,000 telephone lines, distributed in six groups, for expansion of Medellin telephone system. Bid deadline Feb. 15. Copy of specifications available from above address at 2,000 pesos for first copy and 1,500 pesos each additional (US$1=37 pesos approx.).

• **3661XXX — IRELAND** — Engineer in Chief, Department of Posts and Telegraphs, Contracts Section, Marlborough St., Dublin, has issued tender no. C/610/1/27 (Specification DNC/LC/1/76) for supply, installation and testing of audio junction cables. Bid deadline Jan. 27. Copy of specifications available from above address.

• **3662XXX — ALGERIA** — Institut National Agronomique, Avenue Pasteur, Hassan Badi, El-Harrach, Algiers, has issued tender no. 76-04 for supply and installation of closed circuit TV system for educational use. Bid deadline Feb. 28. All correspondence must be in French, all specifications metric. Copy of specifications available from above address at 50 dinars.

Measuring & controlling devices

• **3825XXX — THAILAND** — Foreign Purchasing Section, Electricity Generating Authority of Thailand (EGAT), Nonthaburi, has issued tender no. B022 for supply of electric test instruments, including transistor and diode tester, oscillator, digital voltmeter, dual trace miniscope, digital multimeters, impedence bridge, vibrator meters, relay tester, synchronous chronoscope, insulation tester. Bid deadline Feb. 4. Copy of specifications available from above address at US$25 per set of two copies.

Representations

Foreign private firms are interested in agency agreements and/or distributorships for these products.

Fabricated textile products

2399095—UNITED KINGDOM — Carpet tiles. Holding co. for group mfg. toys, home improvement and do-it-yourself products estab. 1946, employing 3,695. Has 3 factories and 28 warehouse/distr. centers throughout U.K. Merchandise marketed under several well known trade names. Seeks expand DIY div. An expanding, active co.; seeks U.S. firms estab. in home improvement/DIY sector in mfg. products which could complement & extend div. present activities. In consumer goods field emphasis on home improvement rather than home repair, & in industrial field co. concentrates on board materials, plastics & construction services. Reply to—Peter Lewis, Chief Executive, DIY Div., Dunbee-Combex-Marx Ltd., 11/13 Old Esher Rd., Hersham, Surrey. Tel (98) 28921; telex 23540; Cable FLEXITEX LONDON.

Fabricated rubber products

3069891—AUSTRIA—Stopper compounds for sealing capillary cracks in metal or plastic surfaces, made of 1 or 2 components, for use in automobile, boat, & other industries. Documented offers with f.o.b. quotations requested. Payment L/C. Reply to Berthold Greif, Mgr., 3 S. Handels GmbH, P.O. Box 197, A-4010 Linz. Cable—CHEMEX LINZDONAU, Tel. 7222/24991, Telex 2/1263.

Pottery, related products

3262052, 3263052—NIGERIA — Kitchenware. Excl. agency. Quotations c.i.f. Lagos port. Reply to Dele Ogungbimile, Cooperative Supply Assoc. Ltd., 349 Berbert Macaulay St., Yaba, Lagos; Tel: 43497.

Future Construction Abroad

JORDAN—The Jordan Valley Commission, P.O. Box 1970, Amman, invites qualified contractors to tender for 1) supply of material and laying of about 50 km of **water pipes** with diameter of 50-400 mm, construction of **main reservoir** with 2000 cubic meter volume and four **small reservoirs** with 200 cubic meter volume each; 2) supply and installation of **mechanical and electrical equipment, chlorination equipment and control system for three boreholes.** Tender documents available on Contract 1 for price of JD 50 (one JD equals approximately $3.10) and on Contract 2 for JD 25, from above address, as well as: VBB, P.O. Box 6055, Amman. Project will be financed by special loan already obtained from Kreditanstalt Fur Wiederaufbau. Tenders must be submitted by Jan. 31. Please send copy of initial correspondence to Pete Zantal, CAGNE/BIC, U.S. Dept. of Commerce, Washington, D.C. 20230; 202-377-4441. For further information contact Pete Zantal.

JORDAN—Government Ministry of Education will issue a bid in phases during period 1976 to 1979 for supply of **school furniture, equipment, and materials** against IDA Credit #534 JO. Estimated value $4.1 million. Bid is to supply following trained institutions now under construction: polytechnic institute (textile and food processing technology, industrial chemistry, mineral processing, petrochemistry); vocational training complex with workshops for plant maintenance, industrial electricity, control and instrumentation, climatic control and refrigeration, and materials handling; training hotel and school; two secondary schools for girls and one for boys; rural development center; five science laboratories; four craft centers for girls and seven prevocational workshops for boys. Interested companies are invited to register for bid documents by writing to: Director of Implementation Unit, Ministry of Education, P.O. Box 9640, Amman. Registration form #R001 will be sent to prospective bidders and must be returned by Feb. 18. Exact bid opening and closing dates will be announced in advance to firms which are pre-registered for package to be bid. Copies of correspondence should be sent to: Ms. Cherie Loustaunau, CAGNE/BIC, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-4441.

SYRIA—Ministry of Supply and Internal Trade, Parliament St., Damascus, is seeking a supplier of **turn-key automatic bakeries** for production of arabic bread. For additional information contact Pete Zantal, 202-377-4441.

GREECE—Association of Tourist Enterprises of Southwestern Greece, 16 Aghoou Andreou St., Patras, is requesting proposals for design, supply, and installation of a **cableway** on Mt. Panachaikon (elevation 1800 meters) near Patras in Western Peloponnesus. No terms of reference are available, but further information is available from the Tourist Association.

SAUDI ARABIA—Mohamed Ihsan Arif, Partner, Jeddah Shopping Center, POB 1654, Jidda, Saudi Arabia (Cable: TASWIKARIF; Phone 52531 & 51878) is seeking suppliers of a complete **bakery** unit for specialty breads (pumpernickel, onion bread, cinnamon b.ead, pretzels, etc.), fully automatic and electric. Pete Zantal, 202-377-4441.

KUWAIT — U.S. Embassy has been approached by a number of South Korean firms which won construction contracts in Kuwait, for names of U.S. firms dealing in **concrete block making machinery, cement mixers, batching plants, building forms and other equipment used in masonry construction.** U.S. firms making this type of equipment send two copies of brochures and literature to Commercial Office, U.S. Embassy, P.O. Box 77, Kuwait, as soon as possible.

GUATEMALA—U.S. group has been contracted to prepare feasibility study to build new **port** at Champerico on Guatemala's Pacific coast. When study is completed around mid-1977, tenders for construction will be announced. Project calls for construction of two large breakwaters and excavation of inner harbor adjacent to present exposed piers. Cost estimates range from $21 to $30 million. Further information is available from OLKO Engineering, 850 Fifth Ave., New York, N.Y. 10036.

ALGERIA—State Tobacco and Matches Monopoly (SNTA), 40 Rue Hocine Nourredine, Algiers (Cable: SNTABAC ALGER; Telex: 52780) is seeking qualified firms for equipping and installation of **cigarette factory** at Khroubs in Eastern Algeria and three additional units to produce chewing tobacco. Tender documents available for 400 AD ($96.01) from above address. Closing date for submission of offers is Feb. 28, and all correspondence must be in French. For additional information contact Pete Zantal, 202-377-4441.

LIBYA—National Corporation for Industrialization, Sanna St., POB 4388, Tripoli, is seeking qualified firms for supply/erection of modern **tannery** in Benghazi. Tender documents available from above address for payment of LD 50 ($175). Deadline for submittal of offers Feb. 1. Please send copy of initial correspondence to Pete Zantal, 202-377-4441.

ALGERIA — State Tobacco and Match Monopoly (SOMERI), Rue Said Zemmouchi, Mers-el-Kebir, Oran, is prequalifying firms for equipping and installation of **three match factories** with 350 million, 300 million and 380 million capacity by 1980. For additional information contact Pete Zantal, 202-377-4441.

SWAZILAND — Prequalification documents for **bituminous surfacing of 24 km. road** between Mpaka and Siteki are available free from V.K.E. Consulting Engineers, P.O. Box 210, Mbabane (phone 2804), or Ministry of Works, Power, and

Communications, P.O. Box 58, Mbabane (phone 2321, cable MINWORKS MBABANE). Deadline for submission of completed documents Jan. 31. Bid documents are to be issued in February, with bid opening and contract award in April.

ECUADOR — Ministry of Natural Resources has announced that construction of **two fishing ports** in Manta and Posorja will be initiated next year. The subsecretary is currently making arrangements with World Bank for funding final design. In addition, the Ministry announced that Inter-American Development Bank is completing processing of pilot project for development of coastal fishing industry. Project will include construction of **port facilities, small fishing boats, and warehouses.** Construction is expected to begin July 1977.

The Overseas Private Investment Corp. (OPIC) offers political risk insurance on assets and bank guaranties to U.S. construction and service firms planning to submit bids on projects in certain developing countries, identified by the "OPIC" notation at the end of some items. For further information on OPIC's contract insurance programs, write Construction Insurance Officer, Overseas Private Investment Corp., Washington, D.C. 20527. Tel: 202-632-7825.

PAKISTAN—Hyesons Commercial & Industrial Corp. Ltd. (HCICL), owned by Hyesons Group of Companies, a leading industrial group in Pakistan, is looking for American collaboration for construction of **turn-key factory in Karachi for manufacture of guar gum and guar meal from guar seeds.** Proposed venture consists of full process of cleaning guar seeds, dehusking, heating, pearling, refining, milling, sterilizing, drying and packing. Plant should be capable of producing about 15,000 tons per year of guar guam and meals. About 95 percent of guar gum and meal will be exported and balance will be consumed by local market. Estimated cost of project is $1.5 million, which Hyesons Group is prepared to finance. Plant will be constructed on 10-acre plot owned by firm, to be located in industrial area of Karachi where good infrastructure exists and power, gas and water are available. American company would procure machinery and equipment and provide technical know-how and U.S. technicians on fixed fee or royalty basis. Key to winning bid will be ability of firm to market guar gum and meal internationally on long-term basis at price equitable to both parties and comparable to international prices. Interested U.S. firms contact Sami Muneer, Director, Hyesons Commercial & Industrial Corp. Ltd., Abdul Hye Chambers, Dockyard Rd., West Wharf, Karachi. OPIC.

UNITED ARAB EMIRATES — Government of Abu Dhabi, Purchasing Section, Water & Electricity Department, P.O. Box 219, is seeking qualified contractors for A) supply and erection of 0.5 million-gallon capacity **steel reservoir** at ground level including foundation, connections and testing; B) supply and installations of **bypasses to main pipeline and manifold in pumping stations** including all fittings, connections, etc.; C) supply and installation of **signalling system** to indicate at pumping station when reservoir is full and quarter full. Tender documents available from above address for non-refundable fee of DH 500 (U.S. $1 equals approximately 4 dirhams). Closing date for submittal of offers Jan. 19. For additional information contact: Pete Zantal, CAGNE/BIC, U.S. Dept. of Commerce, Washington, D.C. 20230; 202-377-4441.

AUSTRALIA — The Queensland State Parliament has approved implementation of a $112 million **harbor building project** for Brisbane, with construction scheduled to start in early 1977 and continue for 15 years or more. Tenders for two container cranes close on March 16. Tenders for construction and other equipment should be announced in near future. Specifics available from Frank Wilson, Gen. Mgr., Port of Brisbane Authority, 5th Floor, Turbot and Edward Sts., Brisbane, Queensland 4000; telephone (07) 224-0717; telex AA 40760; cable HARBOURS BRISBANE.

Visiting Buyers & Officials

NIGERIA—Mr. Oladeji is visiting the United States for 2-3 weeks. He is interested in **amusement park and playground, building and construction, intercommunication and closed circuit television equipment.** Also interested in recruiting U.S. **architects and town planners** for his company. Plans to attend the National Housewares Exposition in Chicago, Jan. 17-20. For further information contact Annette Napper, Foreign Buyer Program, Room 2322, U.S. Department of Commerce, Washington, D.C. 20230, 202-377-3265.

AUSTRALIA—R. W. Leech would like to meet American suppliers of cut-outs, cut-offs and close-outs of **LP records, cassettes and cartridges.** He was in the United States last year on a similar buying trip, and this year will visit Chicago and major cities on the East Coast in early February. For further information, contact Peter B. Alois, tel. 202-377-3265, U.S. Department of Commerce, Foreign Buyer Program, Washington, D.C. 20230.

AUSTRALIA—An importer is planning to come to the United States in February. His interests are in **1/30 cotton yarn, cotton polyester mixture yarn in all grades, and generally polyester and cotton fabrics for ladies' outerwear.** Peter B. Alois, 202-377-3265.

SWITZERLAND—A businessman will be in the United States this month. He is a well-known importer and distributor of European fabrics, and wishes to expand his lines by contacting American suppliers of top quality **curtain fabrics and wallpaper.** Contact Peter B. Alois, 202-377-3265.

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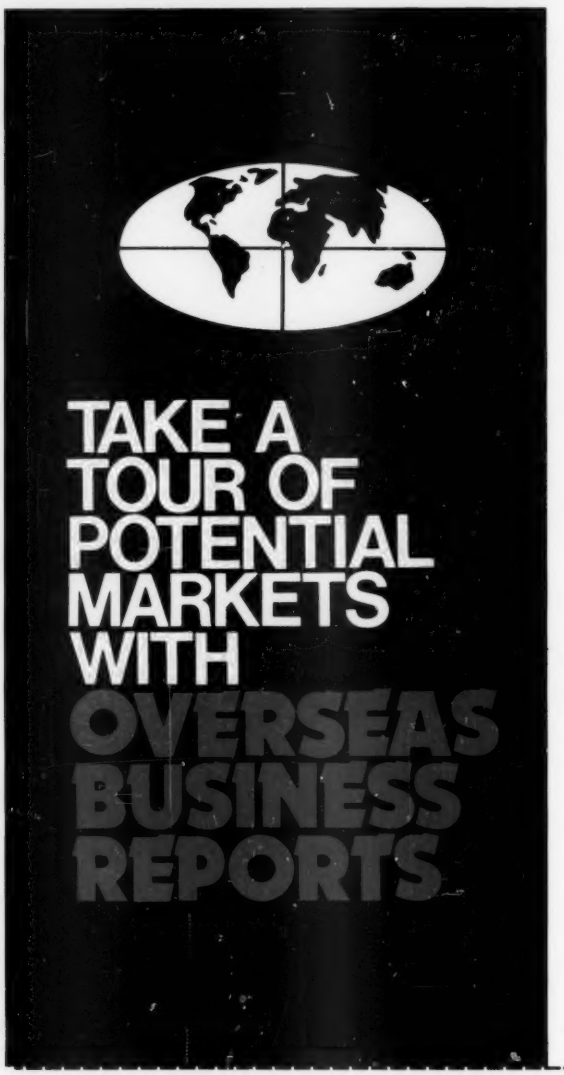

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